

Manufacturers Record

Exponent of America



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Single Copy, 20 Cents.

Baltimore, Md.
DECEMBER 14, 1922

The Boll Weevil a Menace to Civilization.

Cotton is in many respects the most important single industry in the world, when we consider it from its production as a raw material to its manufacture and its wide ramifications in world trade. It represents an aggregate investment in lands, in mills and cognate industries of \$25,000,000,000 or over. The South alone has about \$1,000,000,000 invested in cotton mills, knitting mills and kindred interests, and many billions in its production.

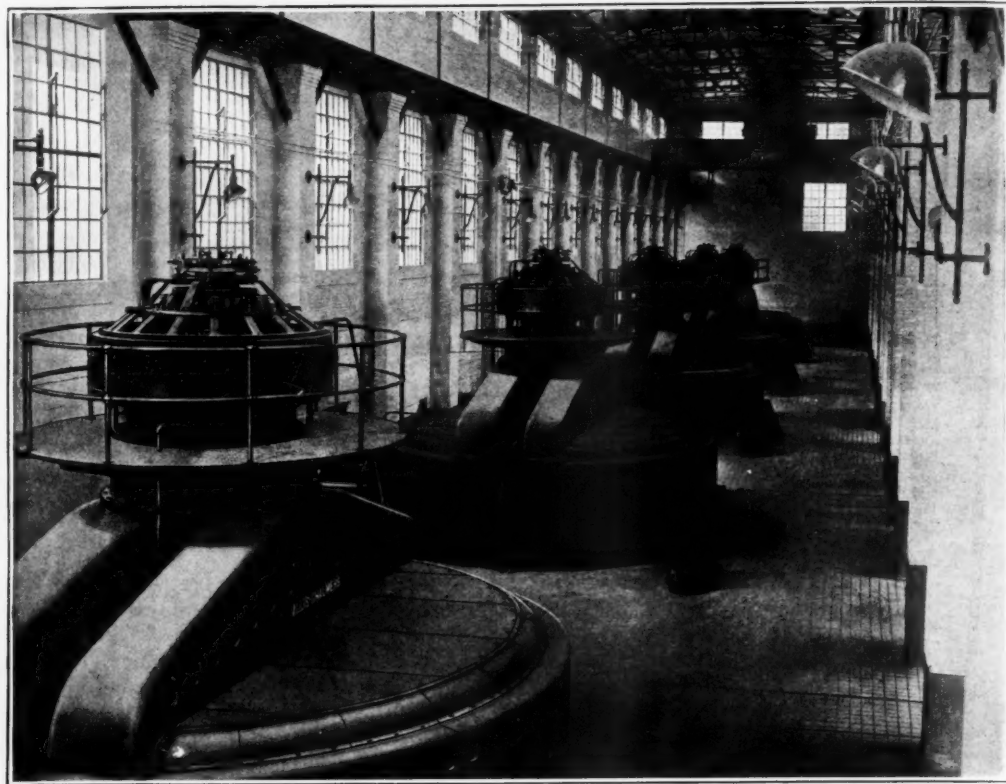
The development of the cotton industry during the first half of the last century was the greatest business achievement during that period in the world. Beginning with a production of a few bales in the early years of that century, cotton-growing developed in the South to a point where it largely dominated the finances and politics of this country and of Europe.

During the Civil War the famine in cotton endangered the welfare of millions of people in England. The poverty in the Lancashire district during that four-year period stands out as one of the awful records in the life of an industrial center. A few months ago one of the foremost cotton manufacturers of England wrote to an American friend that the inability of England to secure its usual supply of American cotton, in any one year, would cause greater distress in the Lancashire district than did the War. Millions of people in Lancashire are wholly dependent on the manufacture of cotton. Millions of people throughout the world—hundreds of millions, indeed—are dependent for clothes upon the production, from the South's staple, of the finished cloth. Millions of people in this country are directly dependent upon the growing and handling of cotton, while the financial interests of the nation would be shaken to their foundation by the loss of the cotton trade. The South could weather the storm better than any other section, because the South could turn its farm lands into the production of diversified agriculture, once more regaining the prosperity which never would have been lost if this section had not by force of circumstances unwisely centered its agriculture upon the production of cotton.

This great industry, without which the world could scarcely maintain its civilization—for without cotton clothes we would sink back into barbarism—is menaced by the boll-weevil. This is not merely a menace to the South, for the South could stand the shock of its cotton crop being destroyed, better than the world could stand the loss of cotton goods. It is a menace to the nation—a menace to civilization itself.

It is, therefore, incumbent upon every agency of this Government and of all other civilized governments; upon chemical manufacturers, cotton manufacturers and financiers, to spend money with the utmost freedom in encouraging chemists and others to find a remedy for the boll-weevil. Various remedies are being developed; some of them are more or less successful; but the task is very great. The danger of the destruction of the cotton industry is so vast that until the whole nation realizes the extent and importance of that industry and the seriousness of the menace the task will not be tackled on a scale commensurate with the magnitude of the problem to be solved.

The world faces a cotton famine; civilization may be at stake by the loss of cotton. But we believe a remedy will be found. We believe that this crop—in many respects the most important single crop ever given by a beneficent Providence to humanity—will be saved from the destructive power of the boll-weevil, but we believe that the utmost energy of the nation must be concentrated upon the solving of this great problem.



Complete Power Units

Five 14,000 KVA., 17,500 H.P., 68 in. Head, 150 R.P.M. Units Wateree Power Company, Southern Power Company.

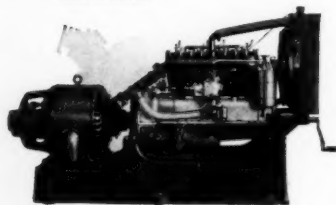
Through mammoth electrical units in many large central stations and from thousands of installations in plants of all sizes, Allis-Chalmers equipment is furnishing light and power to a multitude of homes and industrial establishments.

Complete units having generators driven by water power, steam, gas or oil are built in the Allis-Chalmers factories.

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15 K.W. Gasoline Engine Generating Set for Light and Power.



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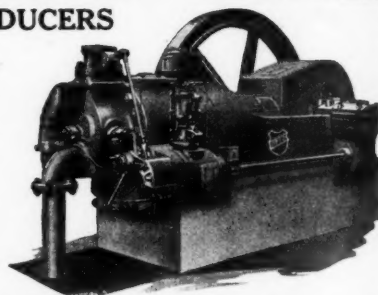
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FAMOUS EMPIRE GAS COAL

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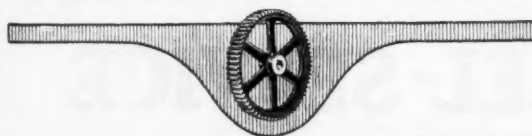
711-717 American Trust Building
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Analysis Empire Coal	
Moisture	1.45 %
Volatile Matter ..	36.57 %
Fixed Carbon	59.63 %
Ash	2.35 %
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"Vigilant" Safety Water Column

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The Lunkenheimer "Vigilant" Safety Water Column sounds an alarm before the water reaches either danger limit. It thereby aids in protecting the boiler against accident and in safeguarding the boiler attendants against injury or death and the plant from destruction.

Statistics covering boiler accidents will prove the desirability—yes necessity of equipping boilers with the Lunkenheimer "Vigilant" Safety Water Column. Ask for Booklet 519-FB.

FIG. 1335 **FIG. 919**

THE LUNKENHEIMER CO.
"QUALITY"
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HIGH GRADE STEAMBOILER SPECIALTIES
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EXPORT DEPT. 123-125 LAFAETTE ST. NEW YORK

FIG. 1264

"America's Best since 1862" 20 27-7-02

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This company has 34,112 H. P. of Edge Moor Boilers in service at present—twenty-four 558 H. P. and thirty-two 518 H. P. boilers at the 120,000 K. W. plant on Ashley St., and eight 518 H. P. at the St. Charles St. Heating Station.

These last eight boilers have a most interesting record. Mr. E. H. Tenney, Chief Engineer of the plant, wrote recently:

"The boilers at the Heating Station were originally installed at the Ashley St. Station in 1906, and in 1917 were removed and erected in the Heating Station. Despite the age of these boilers, they are giving wonderful results both as to economy and capacity. Operating at 185 lbs. pressure, they frequently carry overloads of 200% of rating during the winter season.

"The Edge Moor Boilers at the Ashley St. Station have also proven their adaptability and economy."

The new Edge Moor catalogue contains much useful information for the power plant operator. We shall be glad to send a copy at your request.

EDGE MOOR IRON COMPANY

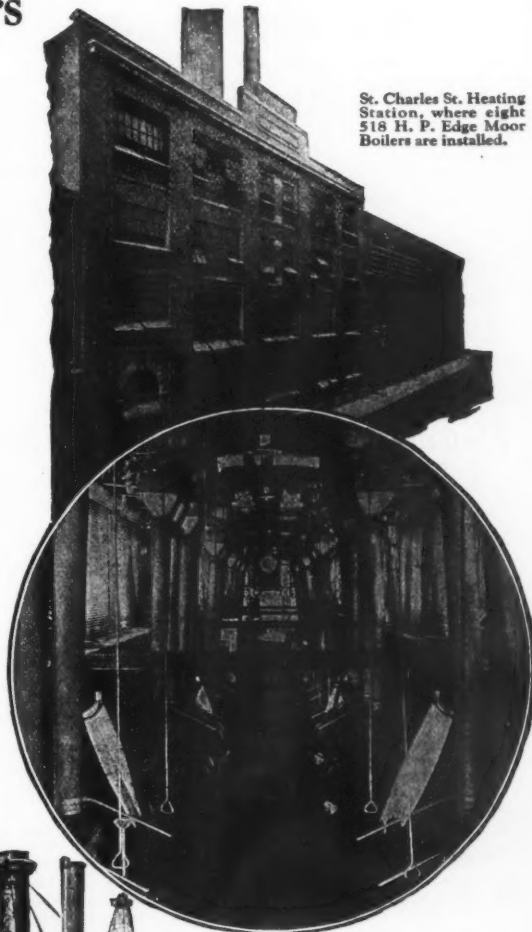
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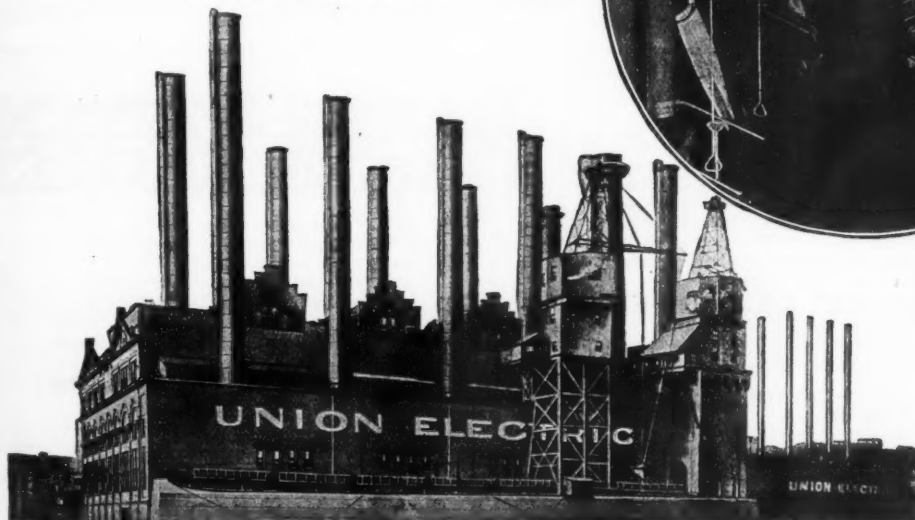
Boston
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St. Charles St. Heating Station, where eight 518 H. P. Edge Moor Boilers are installed.



Firing aisle at Ashley St. Station, showing a few of the 56 Edge Moor Boilers at this plant.

Ashley St. Station from the river. Edge Moor Boilers here total 29,968 H. P.



EDGE MOOR Water Tube BOILERS



FOR INCREASED FUEL ECONOMY

AN INNOVATION—SEMI-STEEL did it.

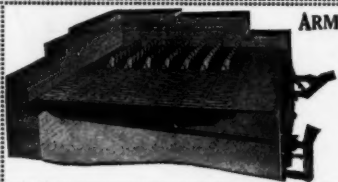
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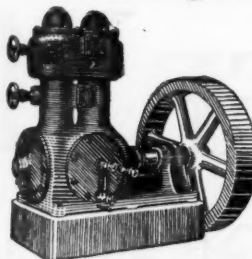
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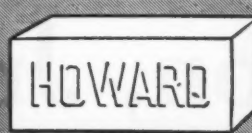
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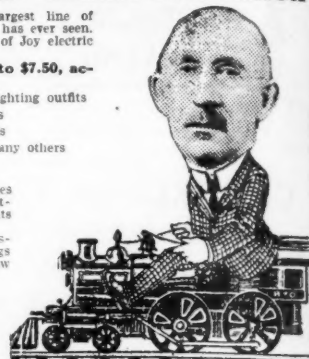
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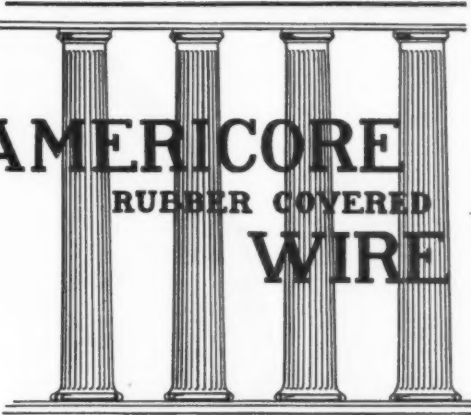
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Keen minds, working with the electric motor, have not only multiplied the power of men's hands a thousand-fold, in many cases; but these same minds have also put at the service of industry—and of all the people—many devices, machines, and methods that were practically impossible until the motor came.

It is only a little more than thirty years since the electric motor was introduced to industry, but see what those few years have wrought!

Only the motor—and its inseparable adjunct, control apparatus—has made possible such developments as the electric crane, or the device that empties a freight car with the same facility with which a child empties a box of popcorn;—why, there wasn't even a completely satisfactory passenger elevator until electric motors and control made it possible! In printing, in the textile industry, in the making of steel, paper, cement,—in fact, in every kind of work men do, the motor now serves not only well, but indispensably.

Of all those who have contributed to adapting electric motors and control to meet human needs, none has worked more effectively, nor more sincerely, than the Westinghouse organization, which introduced the induction motor, the type that is now most widely used. And this same organization, skilled by years of Sincere Service, welcomes consultation on the smallest, as well as the largest, electrical problem; where motors, control, or any other kind of electrical apparatus, may offer the slightest possibility of help.

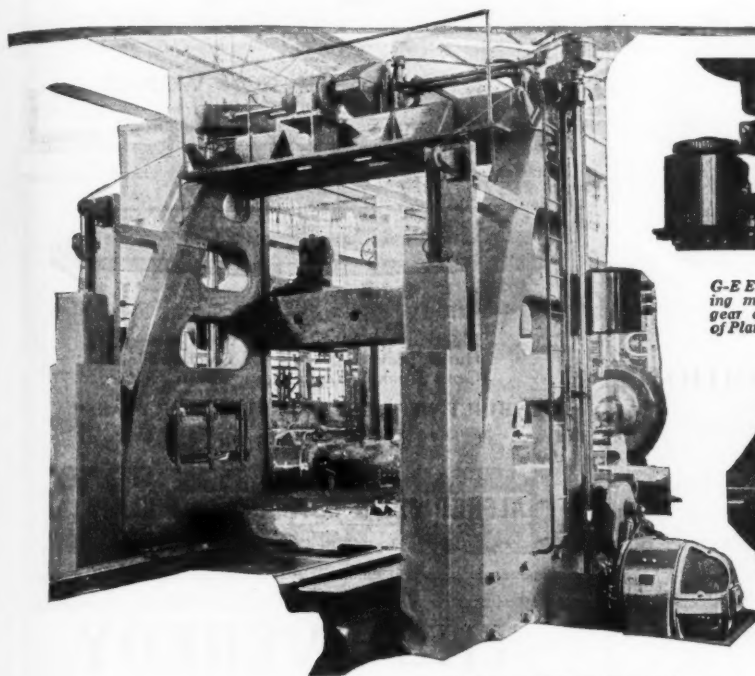
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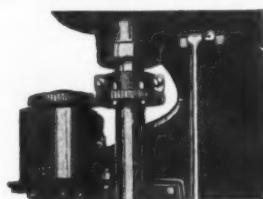
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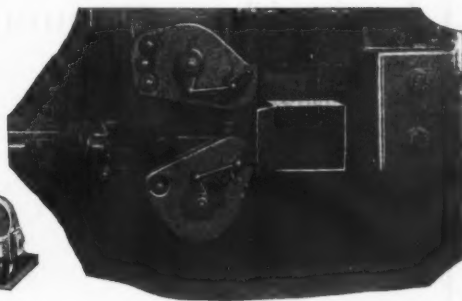
Reversing Planers give most satisfactory service when operated completely by electrical equipment



G-E Type RF Direct-Current Reversing Motor Drive, with Electric Feed—the most highly developed electrical equipment for large planers.



G-E Electric Feed Limit Switch, showing method of mounting—and split gear clamped to Feed Drive Shaft of Planer.



G-E Control Panel for Planer Electric Feed—type in which Cross Rail motor is used for Feed.

Electric Feed Increases Efficiency

The direct-current reversing planer equipment manufactured by the General Electric Company now includes electric feed. For large reversing planers this is the ideal equipment.

The usual feed devices on planers do not begin to feed until the motor has actually started in the reverse direction. The electric feed operates the instant the tool clears the work instead of at the point of reversal as with the mechanical feed—which increases the time efficiency of the planer since the usual drift or over-travel can be decreased. A single motor can be used

for combined feed and cross rail drive.

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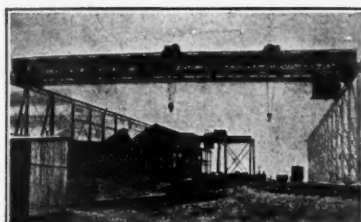
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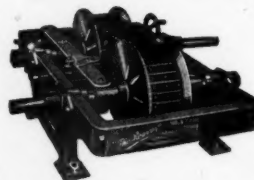
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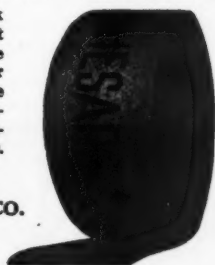
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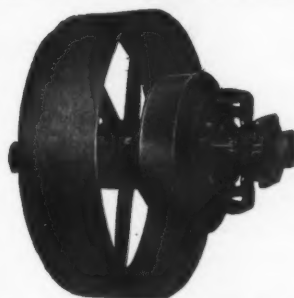
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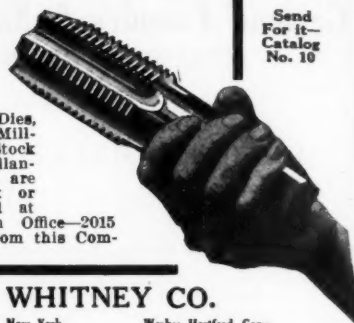
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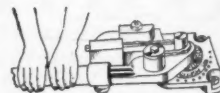
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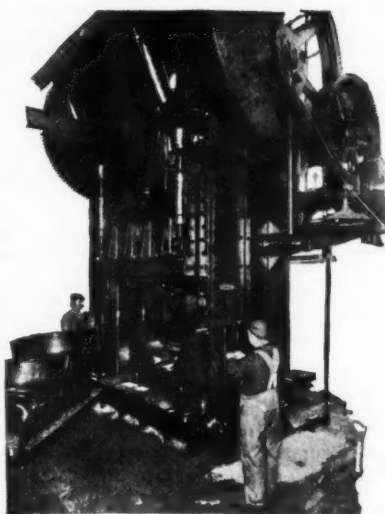


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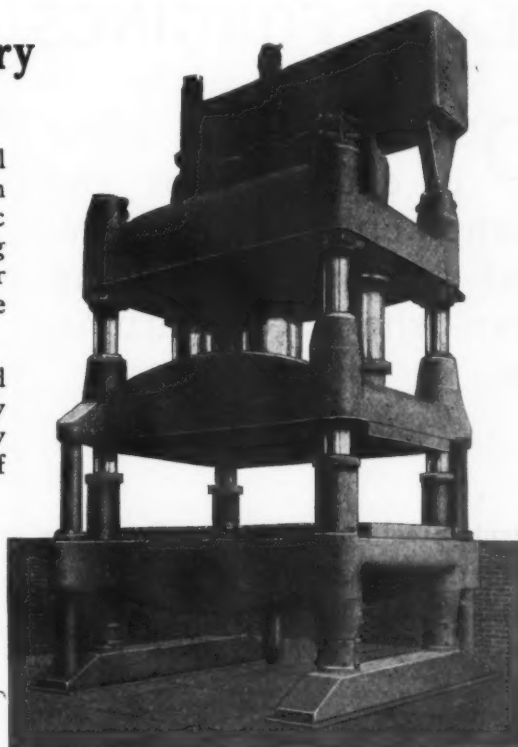
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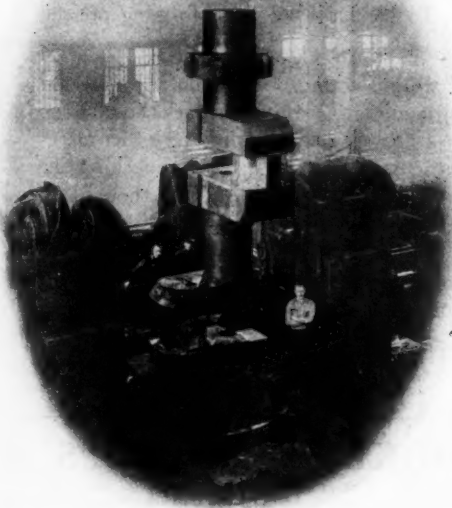
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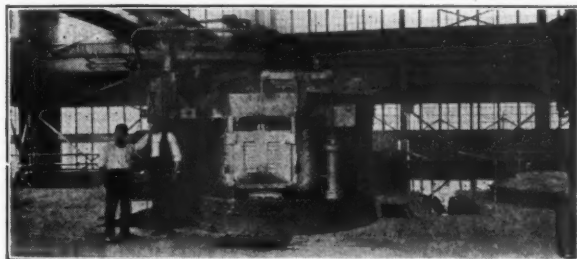
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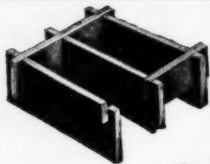
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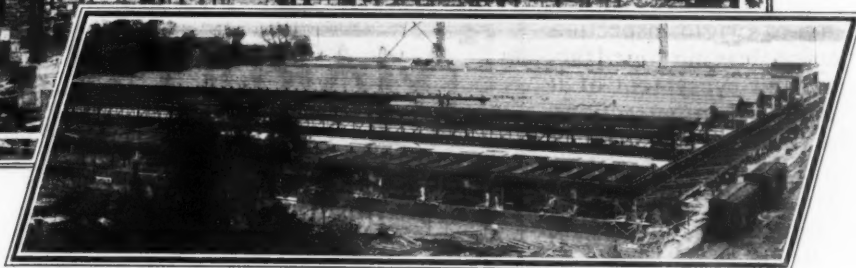
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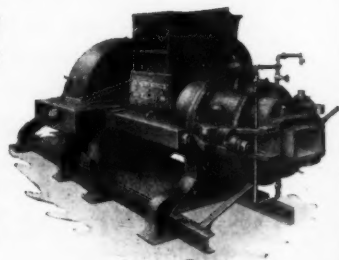
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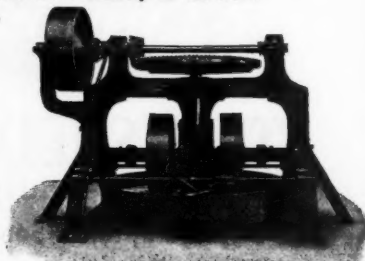
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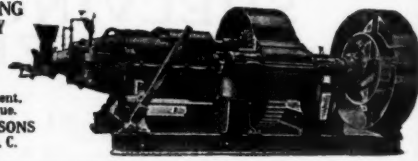
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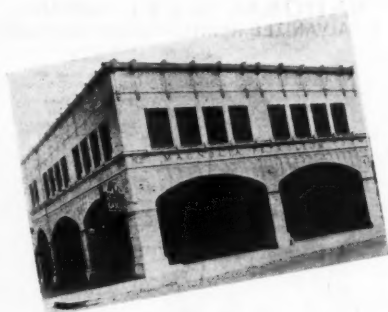
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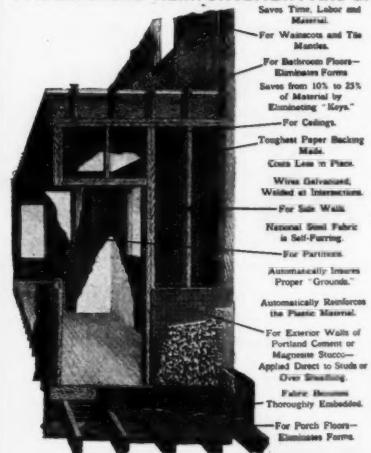
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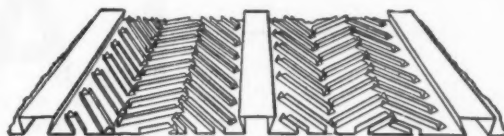
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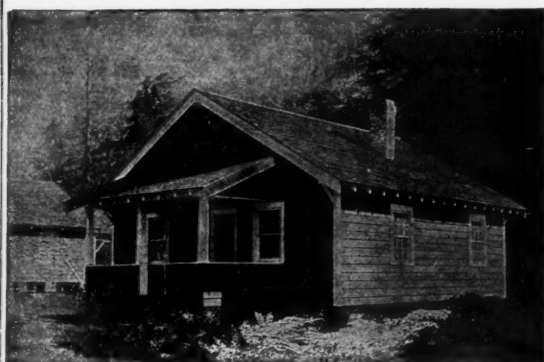
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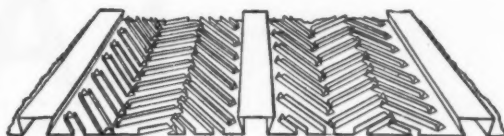
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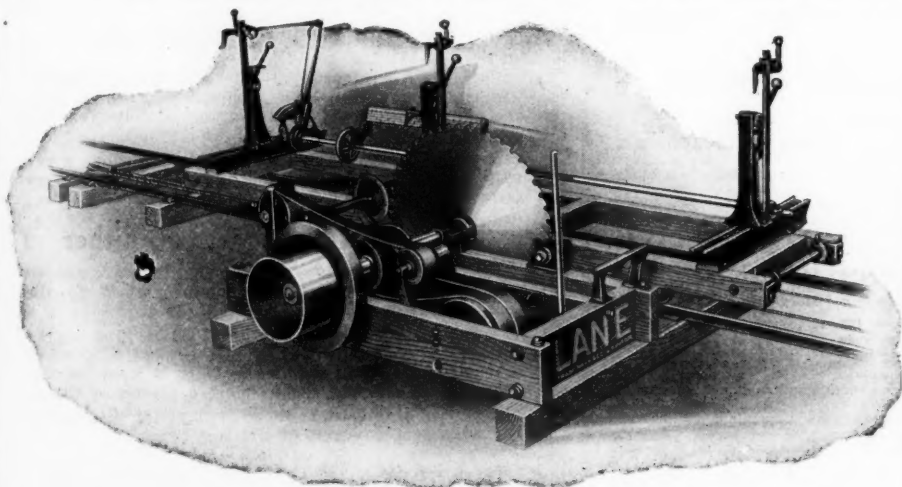
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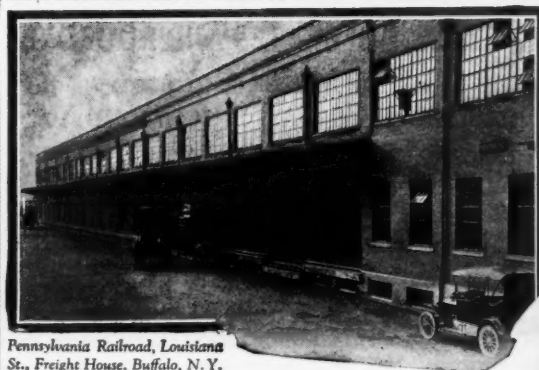
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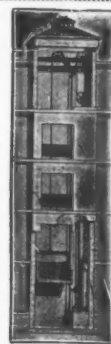
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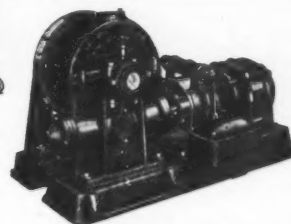
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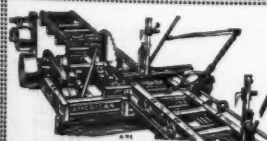
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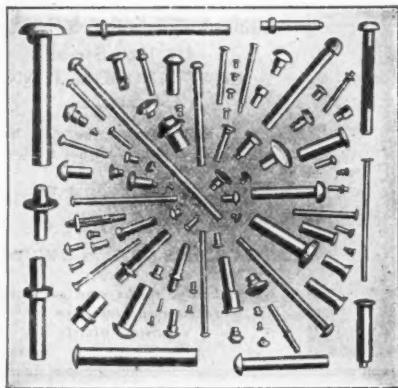
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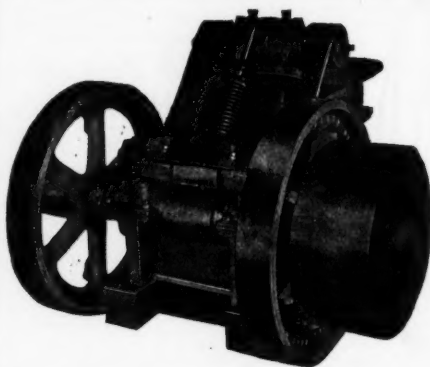
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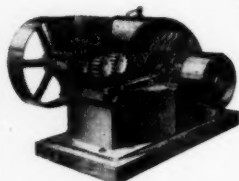
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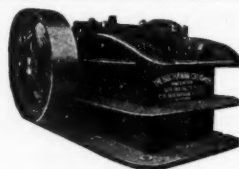
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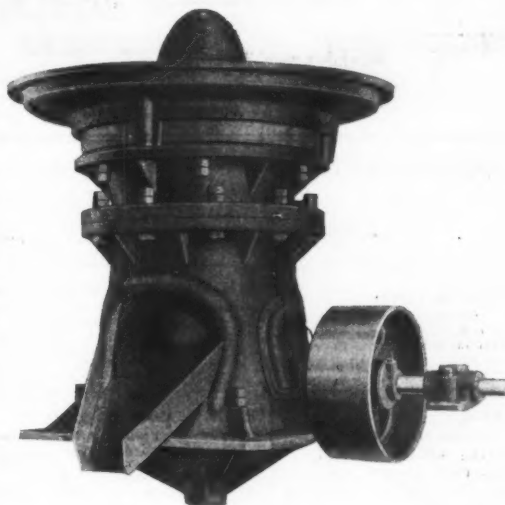
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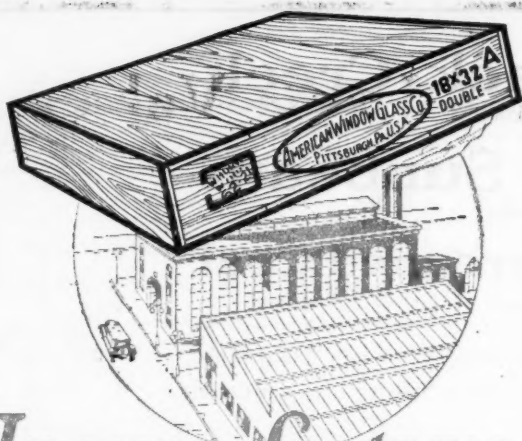
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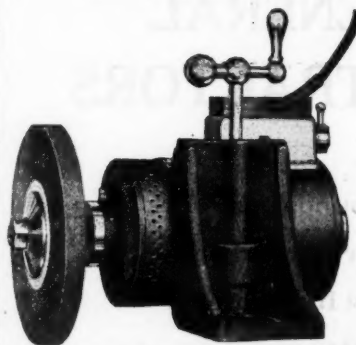
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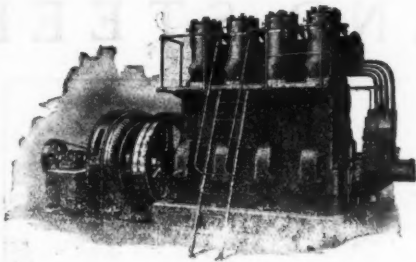
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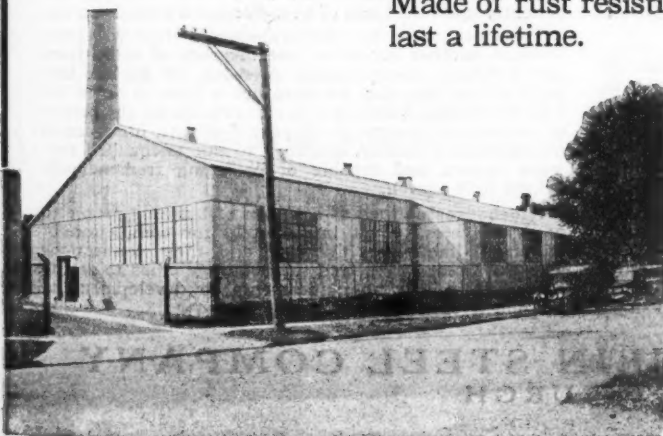
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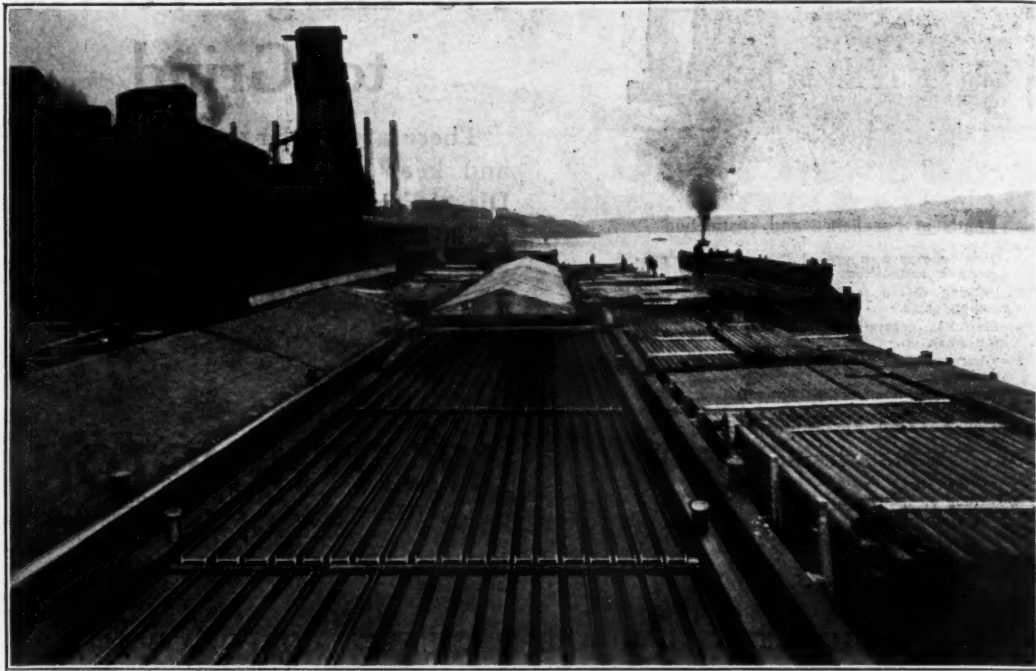
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WATERWAYS AND STEEL



Making up a tow at the mills of the Jones & Laughlin Steel Company on the Ohio. The shipment consists of 8,000 tons of pipe, structural shapes, tinplate, wire nails, barbed wire, woven wire fencing and other steel commodities to be distributed to customers along the Ohio and Mississippi rivers and inland into Western and Southwestern States; these interior points being reached by transfer to rail at Memphis and St. Louis.

GREAT preparation is going on in the Pittsburgh District for resuming distribution of steel products in barges via the trunk-line waterways of the Ohio and Mississippi Valleys, interrupted during the drought of summer and fall by lack of dams and locks in the lower part of the Ohio River.

This service was inaugurated in October 1921 by the Jones & Laughlin Steel Company, which sent many thousands of tons of its products down the Ohio into the West and Southwest before the stream became so low as to make connection with the Mississippi at Cairo impossible.

Other steel companies have since established similar delivery services. Steamboats and barges are making ready in Pittsburgh harbor and departing with great tows. During the next few months thousands of tons of Pittsburgh steel will be distributed by river and rail into the Southwest and West, to the Pacific Coast and exported from New Orleans.

Chicago steel mills are shipping regularly by the Mississippi-Warrior Service (Federal Barge Line). St. Louis steel manufacturers make constant use of the same service and Birmingham mills have distributed steadily by water since the establishment of the government line during the war.

In the months of May, June, July and August of this year, 537 shipments of steel products and manufactured iron and steel commodities were made by 37 iron and steel companies via the government barge line alone, of which 257 were for New Orleans (172 of these being for export) 248 were for Pacific Coast customers, 27 were for Texas, 4 were for Memphis and 1 was for Tampa.

Samuel O. Dunn, editor of RAILWAY AGE, said in FORBES MAGAZINE for August 5, 1922:—

"The experience of the last twenty years warrants the prediction that within the next five years the railways will be offered a freight business 35 to 40 percent larger than the record-breaking business of 1920."

C. H. Markham, President of the Illinois Central, Railroad said in MANUFACTURERS' NEWS for October 19, 1922:—

"The railroads are already organized for and engaged in the business of transportation and whenever and wherever water routes can be used effectively to lessen the cost of transportation or to make transportation more efficient, rail shippers, in my opinion, should be given the opportunity to benefit from the use of such water routes by the co-ordination of water and rail lines into a unified system of transportation."

Waterways and railways co-ordinated could serve this nation well, with highways as a willing handmaiden. Production then would not be forever treading impatiently upon the heels of over-burdened transportation.

Therefore, while we are proposing a deep waterway through another nation as one measure of relief from our domestic transportation pressure, let us not lose sight of the fact that we have but a little to do in the vast Mississippi Basin, in order to provide for the benefit of our whole country an all-year, low-rate, intra-nation transportation facility, auxiliary to our unequalled railways system and capable of becoming tremendously helpful to it as well.

It behooves us then as a nation of business people to prod Congress to act immediately for completion of our trunk-line river highways and their connections with the Great Lakes, and to encourage cities to set up modern terminals as inducements to development of rail and river traffic.

JONES & LAUGHLIN STEEL COMPANY
PITTSBURGH

Manufacturers Record

Exponent of America

DECEMBER 14, 1922

Volume LXXXII

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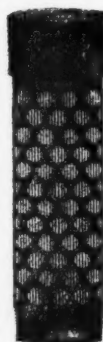
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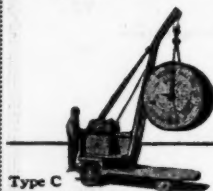
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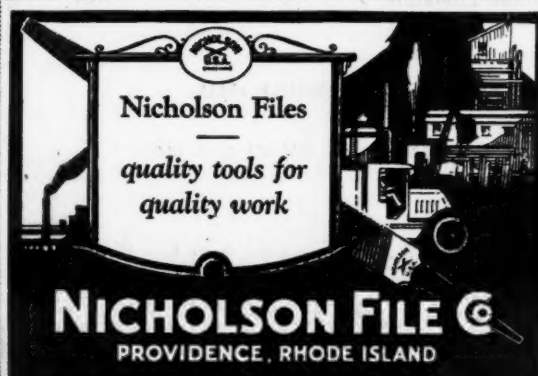
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Vol. LXXXIII No. 24
WEEKLY.

BALTIMORE, DECEMBER 14, 1922

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PERFORMING A PATRIOTIC SERVICE.

IN writing about the publication "The Prohibition Question Viewed from the Economic and Moral Standpoint," Bishop Thomas Nicholson of the Methodist Episcopal Church says:

"I have had copies of this document for some time and have used it with telling effect. You have rendered a very great service not only to the cause of temperance and Prohibition, but I think to the American public. In the midst of the astonishing attacks being made on Prohibition and the amazing attitude of the public press toward this great economic question it is perfectly clear that the forces of law, of order, and of decency must make such a campaign of education as we have never yet made. The facts are substantially all our way. Wherever Prohibition has a third of a chance it proves of the most tremendous benefit and even where its beneficial effects are nullified to the full nullifying power of the whiskey interests it makes an amazing showing of good results.

"To me it is unthinkable that the American public will allow modifications if the facts can be brought to the people. This seems to me the most unparalleled conflict of the selfish interests with the altruistic, the most astounding attack on the fundamental principles of democracy I have known since the days of the Civil War. As to the ultimate outcome I think there can be no question. The forces of right and decency will ultimately win, but they will not win without a great contest, but we appreciate more than we can tell the fine work of the MANUFACTURERS RECORD. We believe you are performing a great patriotic service."

A BUSY MAN'S VIEW.

HON. FRANK O. LOWDEN, of Oregon, Ill., former Governor of that state, in a letter to this paper says:

"The MANUFACTURERS RECORD is one of the publications that I always have put on my desk as soon as it is received, for I find in it much of interest and of value. I am really flattered that you thought it worth while to use so much of my address."

HAS A BOLL WEEVIL REMEDY BEEN FOUND?

PRESIDENT WANNAMAKER, of the American Cotton Association, a cotton planter whose crops before the boll weevil invasion ran to 3000 bales or more a year, and likewise a banker, gives in this issue a remarkable statement about a new remedy for the weevil, his statements being based on personal investigations of cotton fields on which this remedy had been used and on interviews with planters and their tenants who had successfully grown cotton where their neighbors who did not use the remedy had failed. While calcium arsenate is the basis of the poisoned mixture used the amount required is so small as compared with the dusting system that the quantity of arsenate available should be equal to the needs of the South, and the cost is said to be only about one-fifth per acre as much as by the dusting method. Under the present methods the dusting is done largely at night and with expensive equipment, masks being worn by the men and by the animals used to keep them from inhaling too much of the calcium arsenate. The cost, moreover, is almost prohibitive, unless cotton always commands a very high price. Moreover, there is almost a famine in calcium arsenate and prices are liable to sharply increase. It is estimated that the total supply available would be equal to the treatment of only one-fifth of the cotton acreage.

If the new remedy proves as successful as President Wannamaker and others who have investigated it believe, we will have taken a long step toward solving the boll weevil menace to the world's greatest single industry.

Messrs. Barrett & Co., of Augusta, a long-established firm of cotton growers and handlers of very high standing, who have been testing this remedy and who are putting their whole power back of it, wire the MANUFACTURERS RECORD as follows:

"We believe we have the only exterminator that will save the South. We experimented on a large scale this year, making and applying 28,000 gallons. The vast difference between this and all other weevil appliances is that in all others, whether dusting or liquid poison, it must be put right on the weevil, while in Hill's Mixture it need only be put on any part of the plant, but preferably on the top forms, and the weevil will leave any part of the plant to come to it. Therein lies what we regard as the economic salvation of the South.

"If you will read Dr. Goard's recent remarks on dusting, which is the only method the Government is advocating, you will see that the Government practically throws up its hands and says only 15 to 30 per cent of the entire acreage is suit-

able for efficient dusting, because either of high winds or the absence of dews for dissolving the arsenate dust. Therefore, we believe this is the psychological time to educate the South to what we think will prove the real remedy."

GOVERNMENT WILL REPORT ON STOCK OF SWEET POTATOES IN STORAGE.

INFORMATION pertaining to stocks of sweet potatoes stored in warehouses will be given twice a year in special reports issued by the Agricultural Department. The first report as of December 15 will be issued early in January. It is thought the reports will tend to bring about a more even distribution throughout the season and should be beneficial to the entire sweet potato industry, and particularly to the South, as this section produces over 90 per cent of the country's sweet potatoes.

There are over 3000 sweet potato storage houses in the United States with a combined capacity exceeding 12,000,000 bushels. Approximately half of the houses are classified as commercial and have a total capacity of over 10,000,000 bushels. The remaining small houses are usually located on farms and are used to store supplies for home consumption. In Georgia there are facilities for storing over 2,000,000 bushels. Four other states—Delaware, Texas, Louisiana, and Tennessee—each have storage capacity for more than 1,000,000 bushels. Thirteen counties in the United States have facilities for storing more than 100,000 bushels each, Sussex County, Delaware, leading with facilities for over 1,000,000 bushels. The other 12 counties are located in California, Tennessee, Illinois, New Jersey, Delaware, Maryland, Louisiana, Texas and Arkansas.

The accompanying tables of production and shipments present the storage situation concretely. Although the Southern States produce so large a part of the crop, they ship in car lots a small percentage of their production, while the northeastern States produce about 5 per cent and ship over three-quarters of their crop. However, there is a growing interest in the South to foster shipments by car lots as several Southern communities during the past season, operating co-operatively, have begun the development on a commercial scale of their sweet potato crop.

Production and Shipments of Sweet Potatoes, 1921 and 1922.

State.	Production.		Shipments.	
	1921	1922	1921-22	1922-23
	Bushels.	Bushels.	Cars.	Nov. 25.
Alabama	12,150,000	15,150,000	680	366
Arkansas	5,670,000	4,080,000	580	17
Florida	2,720,000	2,720,000	108	102
Georgia	12,410,000	12,616,000	1,848	169
Louisiana	8,272,000	7,820,000	960	368
Maryland	900,000	1,500,000	1,264	826
Mississippi	8,560,000	11,960,000	167	29
North Carolina	10,302,000	11,978,000	1,018	386
Oklahoma	2,646,000	2,052,000	151	1
South Carolina	7,885,000	9,568,000	136	2
Tennessee	4,400,000	3,864,000	1,559	238
Texas	8,200,000	8,118,000	748	420
Virginia	4,180,000	6,210,000	5,115	6,272
Total South	88,295,000	97,675,000	13,864	9,196
New Jersey	1,870,000	3,200,000	2,232	1,242
Delaware	900,000	1,710,000	1,728	192
Other States*	7,595,000	7,774,000	1,486	712
Total United States..	98,660,000	110,359,000	19,310	11,342

*Mostly Southern.

The relative size of the crop in the northeastern section and the condition of the market determine to a great extent the earliness or lateness and the volume of sweet potato shipments from southern storages. Unusually large supplies from Virginia, Maryland, and New Jersey this fall forced the price of Virginia stock as low as \$1.25 to \$1.50 per barrel in many eastern markets. Consequently, growers and dealers in the South are holding back their potatoes. Shipments to November 25 were about one fourth less than to the same time last year.

PRESENT FARM VALUES SHOULD BE ASCERTAINED BY THE CENSUS BUREAU.

THE statistics of farm values compared in 1919 and 1920 by the census are wholly valueless at present, or for any comparisons in the future. It would not be a very great undertaking, nor would the cost be heavy in proportion to its importance to have the census bureau compile the present value of the farm lands of the country.

The shrinkage in value, since the deflation which began two years ago, has been enormous, and in all probability exceeds the total investment in all of the railroads of the country. This decrease has gone on in every part of the country. The decline throughout the West and on the Pacific Coast has probably been even more tremendous in amount and more drastic in the sufferings which it has entailed, than the decline in the South. Lands, which formerly were easily salable at good figures, are today practically without selling value, at any figure. In one county, alone, we are informed, 10,000 pieces of farm property have been advertised for sale under mortgage or for taxes.

The condition is far worse than was ever known before in this country and unless the magnitude of this decline can be intelligently grasped by the country, it will scarcely be possible for the nation, at large, to understand the influence upon our economic and political life of this situation. Without this knowledge we will not be able to realize fully the destructive power of deflation and what it has meant to the agricultural interests of the whole country. We cannot form any intelligent opinion on all of the questions involved, viewing the matter from the financial and political standpoint, without a full understanding of the losses involved.

Since the census machinery is in operation, a resolution by Congress requiring immediate investigation and report at the earliest possible moment upon the decline in the farm values of the entire country would be of inestimable value. It would form the basis of an intelligent study of the situation and of how to avoid the possibility of a recurrence of such a condition in the years to come.

COMPLETE VINDICATION.

THIS CONGRESS ALREADY HAS TAKEN COGNIZANCE OF THE MISFORTUNE WHICH PRECIPITATE DEFLATION BROUGHT TO AMERICAN AGRICULTURE. YOUR MEASURES OF RELIEF AND THE REDUCTION OF THE FEDERAL RESERVE DISCOUNT RATE UNDOUBTEDLY SAVED THE COUNTRY FROM WIDESPREAD DISASTER. THE VERY PROOF OF HELPFULNESS ALREADY GIVEN IS THE STRONGEST ARGUMENT FOR THE PERMANENT ESTABLISHMENT OF WIDENED CREDITS, HERETOFORE TEMPORARILY EXTENDED TO THE WAR FINANCE CORPORATION—President Harding's Address to Congress.

That is exactly what the MANUFACTURERS RECORD has been saying ever since ignorant financiers, in temporary authority, under the leadership of former Governor W. P. G. Harding, adopted the policy that was destined to spread economic disaster from one end of the country to the other. It is a complete vindication by the President of the United States of everything this newspaper has said and done.

Farm Credits Will Relieve Traffic Congestion

THE two chief thoughts in the President's address to Congress related first to the institution of some new credit system which would forever prevent the farmers of the country from being again robbed and defrauded as they were when their credit resources were wickedly taken from them by the arbitrary action of the Federal Reserve System, under the administration of Governor W. P. G. Harding, and, secondly, to the necessity for the amelioration of intolerable transportation conditions.

The Chief Executive might have tied the two thoughts together in a most convincing way. There is a reason why every railway executive, every shipper in the country, should be heart and soul behind the movement for adequate agricultural credits—the sort of credits that will permit the honest marketing of farm products. And the reason is this: **ORDERLY MARKETING WILL RELIEVE TRAFFIC CONGESTION.**

One of the gravest unfavorable influences with which the country has to deal economically is seasonal movement. There is seasonal labor, seasonal coal-buying, seasonal financing, and seasonal shipping. Seasons change labor glut into labor deficiencies. Seasonal coal-dealing, it is recognized, is the big problem with which the Coal Commission has to deal, and one of the formulas it is expected to produce is a method for the storing of coal and the distribution of the transportation load over the whole year instead of over a few months. So, too, in a lesser degree, seasonal crop financing has strained banking resources, leading to general embarrassment. The equalization of demand, therefore, which intelligence is at last recognizing, is of primary importance in the solution of many of the major problems of production and consumption.

The thought is not a new one in private enterprise. It is reported from Detroit, for instance, that the great automobile factories will spend the winter months in the production of cars to meet the spring demand. Spring is the great buying time for motor cars, but the production of them can be spread over the entire year—equalized. This is merely typical of what innumerable other trades have been customarily doing for years. Only in agriculture and in the coal industry, where obsolete methods of management have persisted, has it been accepted that the seasonal difficulty was beyond solution.

Centuries ago man began to equalize the seasons. He made winter summer by means of fire, and summer winter by means of ice. By the intelligent use of clothes, he equalized temperature the year round, and made the cold countries habitable. It is an old story, the distribution of the load. No man is so strong that he can take a thick volume and tear it asunder in bulk; but no volume is so bulky that the weakest cannot sunder it leaf by leaf. In the morning twilight of history Joseph taught the lesson in Egypt, for he equalized the fat and the lean years by a simple process of storage.

A Californian who is an expert in the shipment of food-stuffs from that State tells us, after a thorough investigation, that he knows of no one thing which will so quickly relieve traffic congestion in that part of the world as an adequate system of farm credits. "If," says he, "we can warehouse our products and feed them gradually to the market as consumption requires, the effect will be equivalent to a doubling of the car supply." That is a far-reaching statement, but if the orderly marketing of crops should be equivalent to even a ten per cent increase in the car supply, it would mean hundreds of millions to the nation as a whole. One car in four trips will do the same work that four cars

can do in one trip. The adequacy of a car supply is determined by the time requirement.

It may be urged that even with adequate agricultural credits, there is lacking a sufficiency of warehouses. That may be true, but once the orderly marketing of crops is a recognized national policy, and essential credit is forthcoming, warehouses will almost build themselves. There was not much incentive to build warehouses when the Federal Reserve Banks were taking the position that any cotton producer who held his cotton in a warehouse was a profiteer and a criminal, a just subject for chastisement and one from whom all financial help and assistance should forthwith be taken. Agricultural credits will build warehouses.

Nor is it in this one respect only that agricultural credit is revealed as a policy which ought to be most strongly endorsed and advocated by the railroads of the country, and particularly by the great life insurance companies, which have millions invested in railroad securities. There cannot be any radical and confiscatory legislation in the United States unless it is supported by the farmers. The farmer, owning his own land, is naturally the conservative of conservatives. He is a conservative because he has something to conserve. He is a strong supporter of those economic conditions which give him a fair chance. He will vote to sustain a government that affords him as good financial and transportation facilities as others enjoy. He will vote against any government that does not, and that is why he has been voting in "the opposition" ever since the epidemic of disaster hit him. Therefore, if agricultural credits will so relieve traffic congestion as to enable the farmer to get his products to market, and if they will likewise put him in a position where he can have some say in the sale of his own products, and therefore in his own prosperity, it is surely good policy for the railroads, and for all conservative interests in the nation, to see that he does get such credits.

The President laments that his personal efforts to persuade the railways voluntarily to reduce their rates on farm products were unsuccessful. We hope he will renew those efforts. The decline in the price of farm products has had the effect of doubling the transport cost since 1920. The reduction allowed some months ago, therefore, was hopelessly inadequate. The rates, as conditions have stood, have been almost confiscatory. And confiscatory rates are rates the railroads ought with supreme care to avoid. They rightly protest when any rate required of them is confiscatory. Let them have regard also, therefore, for rates that have the effect of confiscating the farmers' crops, and of all but confiscating his land, since farm land is almost valueless unless there is access to the markets. The wisest thing the railroads could do today would be to reduce freights on farm products. The President is giving them good advice.

The hue and cry raised some months ago when the proposal to have agriculture represented on the Federal Reserve Board was denounced as class legislation is ancient history. Education is teaching the fundamental place agriculture holds in the national economy. A new era in prosperity is fore-shadowed by the apparent determination of all parties and factions alike to sanction a truly national agrarian policy, devised to permit the restoration of profit in farming and to revive the attractiveness of agriculture.

If agricultural credits did no more than relieve, in any measure, traffic congestion, they would be worth while. They cannot relieve traffic congestion without also increasing the earning power of freight cars in general, which means the earning power of the roads. This, in turn, means inevitably lower rates.

COMMERCE HAMPERED BY HIGH FREIGHT RATES.

THE Interstate Commerce Commission in its annual report to Congress declares that existing high rates "no longer interfere with the flow of commerce as a whole."

That statement is not only unwise, but the evidence indicates that it is untrue. The Commission's own statement elsewhere in the report intimates that it is untrue, for it goes on to say that "the tonnage moved by the railroads has been steadily increasing in recent months" and adds that "possibly increased earnings by the roads from the present flood of traffic were absorbed by the reduction ordered last July in anticipation of the present increased traffic." That means, if it means anything, that the July decreases were expected to and did augment the volume of traffic offering. Likewise, there is no doubt that further reductions would induce still heavier shipments, wherefore existing rates are obviously an impediment.

It is remarkable, indeed, that any instrumentality of the Government should seriously advance the proposition that high freight rates do not interfere with commerce, since it is accepted by economists that cheap land transportation is an absolute essential in the United States.

It is notorious that great volumes of farm products are now rotting in the fields either because there are no cars in which to move them or because they are not worth in market the cost of transportation. There are thousands of acres of truck lands which will not be planted next spring because of prohibitive freight rates. Innumerable individual instances could be cited in proof of the deterrent effect on commerce the existing rates have.

It is true, as the Commission probably meant, that the roads are getting all the business they can handle. There are some experts, we believe, who argue that it is a good thing to keep rates high so that business can be kept within the capacity of the roads. But that is economic suicide, not economic progress. The object is not simply to provide the roads with what they can carry, but to have the roads provide carriage for what the country can produce. We want to build the roads up to the requirements of the nation, not to hold the nation down to the capacity of an inadequate transport service.

High freight rates are not only interfering with the flow of commerce, but in some cases they are damming that flow altogether, shutting it off and inducing stagnation.

STATE SECURITIES SHOULD NOT BE SUBJECT TO FEDERAL TAXATION.

THE proceeds from the sale of state and municipal securities are being expended for schools, roads, drainage and various public improvements which are just as important as any industrial or railroad enterprises. The assumption that the proceeds from such bonds are wasted and thrown away is purely gratuitous and demonstrably untrue. Moreover, the capital employed in such public works is quickly and beneficially redistributed throughout the country. It does not go abroad; it is not lost. It stays with us and we have it.

If the tax-exempt provision is withdrawn from securities issued by the Farm Loan Board wherewith to finance loans to farmers, the cost of such money will be increased by say, one per cent. No municipality is going to gain anything by having its securities taxed. The increase in income taxes paid to the Federal Government will not compensate for the higher local taxes individuals will have to pay to meet local loans floated at a high interest rate.

The public ought to be able to borrow money at a rate less than individuals have to pay.

There are objections to tax-free securities, it is true, but they are not of such weight as to justify any State

in renouncing its independent financial position. When State issues are subject to Federal taxation, there will be no State independence left. The power to tax is the power to destroy. Few States, for instance, would be powerful enough to compete for money with the Federal Government in the open market.

There are some big foreign loans contemplated by international bankers. They say they do not want money thrown away by States and municipalities. We think that it is a lot safer for our own municipalities to spend it than to have it handed to some nation in near-bankruptcy, willing to pay a high rate, such as the international bankers like. The idea that the local taxpayer does not watch local expenditures is far from the truth. He watches them much more closely than he watches Washington, which has a record in wasting money that few cities or counties in the United States can match.

NATION WIDE CONTROL OF FREIGHT CARS— MANUFACTURERS RECORD SIX YEARS AGO PUBLISHED SUGGESTION FOR CENTRAL CAR OWNING CORPORATION.

A PROPOS of the efforts which are now being made to obtain a full use of railroad equipment in times when the pressure of traffic is unusually heavy upon the lines and also of propositions for a central control of freight cars it is interesting to reproduce from the pages of the MANUFACTURERS RECORD of November 23, 1916, an article by Samuel G. Wilmer which suggested in a general way the creation of a central body to own and control cars, after the manner of a national service corporation, this suggestion having been inspired by an inquiry conducted at Louisville, Ky., by C. C. McChord, of the Interstate Commerce Commission to adopt measures of relief for the great car shortage which existed that autumn. The article is as follows:

"It was plainly revealed by the car shortage investigation conducted at Louisville by C. C. McChord, one of the members of the Interstate Commerce Commission, that no matter how railroad freight cars may be individually owned, they become in practice the property of the railroads as a whole and are used as such. This has never before been so plainly put before the attention of the public, and it suggests the thought that it might be well for the various railroads to bring about the organization of a great car owning and distributing company, which shall be vested with the ownership of all railroad freight cars now existing, and which shall hereafter be built, and that it shall allot them and reallocate them in various quantities to the different railroads from time to time as the demands of traffic and the interests of the people require, a per diem rental being charged for their use. This central car organization should of course, have absolute authority to compel, under heavy penalties for refusal, the return of freight cars from any line or lines to its headquarters, or their transfer to any line or lines which may stand more in need of them than the lines on which they happen to be in use at any time.

"While it is proposed to hereafter maintain an equilibrium as to cars by the imposition of higher demurrage charges, it appears that so long as cars are individually owned by the various railroad companies, just so long will there be serious difficulties encountered in their use whenever they are off the line of their parent companies. Even with advanced demurrage it would be possible for railroads to retain cars which they might want because the proposed per diem charges which they would be obliged to pay for their use are not so high as the proposed demurrage per diem which shippers and receivers of freight would pay, and it might be profitable to them to pay their charges for a length of time sufficient to be profitable and yet of so comparatively little duration that the cars would be on their way home before the steps necessary to secure their return could be taken. Moreover, to secure prompt return and adequate service it would be better for the administration of the car service regulations to be in charge of a body entirely disconnected from the railroads, because one railroad company might not, for various reasons, wish to take drastic steps against another company to get back its own cars,

and while this hesitancy continued the public would be the sufferer.

"By such an arrangement as is here suggested the Interstate Commerce Commission in dealing with car service would have to do with but one body, namely, this proposed central organization which would be in position to consider the car requirements of the country in its entirety with a breadth of vision not possible to any one of the railroads or to the now existing railroad associations. It could keep itself closely informed day by day as to car needs and distribution, and the railroad service could be raised to a much higher plane of efficiency.

"Is it not possible that the formation of a car organization such as is here suggested would solve in the most satisfactory manner the problems that confront railroad operating officers with respect to the adequate handling and use of their equipment? It is, however, a suggestion to be dealt with by men most familiar with railroad practice and it is submitted to them in a friendly spirit with a desire to aid them in their difficulties which are now being debated."

HOW CALIFORNIA BY PROGRESSIVE ADVERTISING ENORMOUSLY INCREASED THE DEMAND FOR MANY OF ITS PRODUCTS; A LESSON OF VALUE TO ALL BUSINESS MEN.

WIDELY known as is the value of advertising certain facts about it are not as generally understood and appreciated as they should be even among some of the men most intimately concerned with it either as buyers or sellers of publicity. It was at a recent meeting of advertising men in New York City that Frank E. Fehlman, of the New York office of the Lord & Thomas advertising agency, told his auditors that broad advertising of industries or products is primarily a banker's proposition, and that if sufficient and dependable information is put before a banker so that he can consider and weigh possibilities, he is usually responsive and will back a campaign to advertise products and their distribution.

After the speechmaking, some exceedingly valuable and interesting data from the firm was distributed to the gathering showing the great advances which had been made in the California fruit industry in consequence of carefully planned and wisely executed advertising work extending over a number of years. The data showed that in the year 1907, when advertising of California oranges was begun, the shipments amounted to about 10,290,000 boxes each year for the season ended October 31; the shipments had averaged about that for two or three years, excepting in 1906 when, owing to unfavorable growing conditions,—shipments declined to less than 9,000,000 boxes.

In 1908 the shipments mounted nearly half a million of boxes owing to advertising and in 1909 they exceeded 13,400,000 boxes. Since then there has been year after year, a generally upward movement in the number of boxes shipped, excepting, notably in 1913 when there was a freeze, and in 1918 when a heat wave damaged the crop, although there were other years when there was some sagging backward, but the general movement was upward, the high water mark of over 22,100,000 boxes being reached in 1921.

It is shown that the growth of shipments was due to increasing the demand for oranges and orange products. For instance when the men engaged in citrus fruit raising wanted to increase the use of orangeade and lemonade as beverages, they found that the soda water trade was unwilling to cooperate because of the additional trouble it would occasion, so the fruit men perfected and manufactured electrical devices to quickly press out orange juice and lemon juice in plain view of customers, making it easy for the soda water trade to sell them and also showing that the juices were pure and real. More than 4000 of the machines were sold during the last six months at a cost

of \$50 each, and now the industry is in position to advertise orangeade and lemonade extensively and thus influence the public consumption of them.

A similar campaign to popularize the use of raisins was also adopted and carried out. Nine years ago, in 1913, the production of California raisins was about 132,000,000 pounds and consumption of them about 110,000,000 pounds, leaving a surplus of 22,000,000 pounds. Then the raisin growers and others interested in marketing the crop, through their association began to advertise the use of raisins for raisin bread and pies, putting on the market a new package for bakers, so that they were persuaded to produce more and more of such comestibles, and within a very few years a big business was built up in connection with extensive publicity through magazines and newspapers, 40,000,000 more pounds of raisins being sold wiping out the surplus and adding 18,000,000 pounds of new trade. Thus in 1917 there were produced in California 326,000,000 pounds of raisins, all of which were sold and there was thus no carry over, this great change having been accomplished in only four years. The greatest year in raisin production was 1919 when 365,000,000 pounds were raised and sold, the consumption of raisins being increased from 1.1 pounds per capita in 1913 to 3.41 pounds in 1919. In 1920 the crop was 347,000,000 pounds, all being sold. It is further observed that within five weeks after a 5-cent package of raisins was marketed orders were received for 333,000,000 such packages valued at retail at \$16,500,000. By this means alone 32,000,000 pounds of raisins were sold.

The walnut trade has also been greatly increased by advertising along similar lines. In 1907 the consumption of walnuts in this country was something over 37,000,000 pounds of which California supplied 14,000,000 pounds. Advertising was begun in 1915 when the consumption reached 50,000,000 pounds from which point it has grown to more than 87,000,000 pounds in 1921, with over 41,600,000 pounds supplied by California.

The California lemon industry has also profited greatly by like judicious and popular advertising methods, winning a larger share of the domestic business for this fruit. Eighteen years ago, it is stated, three fourths of the lemons used in this country came from Italy and Sicily, California supplying one fourth. In 1921 California had very nearly 84 per cent of the business although foreign grown lemons came in at lower prices. Advertising was begun in 1915.

Again, the California Fruit Growers Exchange has pursued an advertising policy which has resulted in marketing their summer oranges, which mature from May to November, with the result that now practically as many oranges are sold in summer as in winter, in spite of competition from the ripening berries and other summer fruits.

FOLLOW HIS EXAMPLE.

National Fidelity Life Insurance Co.,

Kansas City, Mo., November 25.

Editor *Manufacturers Record*:

I received copy of "The Prohibition Question Viewed from the Economic and Moral Standpoint" and wish to thank you very heartily for your interest in forwarding same.

Sharing in the belief which I must know is entertained by many others, that this uncommon treatment of the question should be in the hands of men everywhere, and desiring to give the idea a bit of a boost, I will ask that you please have one hundred copies mailed to our company at this address, 13th Floor Federal Reserve Bank Bldg., and that bill be sent to the Home Office at Sioux City, Iowa.

RALPH H. RICE, President.

The fight must go on so long as the liquor interests of the world concentrate their power on the breaking down of our prohibition laws. We hope many others will follow Mr. Rice's example.

ONE OF OUR MISTAKES.

Ambassador Child at Lausanne is begging for what Turkey would have been happy to grant four years or even three years ago. It is humiliating to be asking Turkey to grant concessions. By the way, Who won the war?—Raleigh News and Observer.

But President Wilson refused to let this country declare war against Turkey though Turkey was fighting us by its aid to Germany. We have no standing therefore in court as against Turkey. Brother Josephus Daniels of the News and Observer ought to know that to all practical purposes Turkey and Germany won the war, looking to the future, for Turkey has already practically regained more than its former standing, has murdered unnumbered Christians, driven hundreds of thousands from their homes to die of starvation and cold and now assumes to dictate to the world.

Our monumental blunder was our refusal to declare war on Turkey when Turkey was the ally of Germany.

THE SALES TAX IS SCIENTIFIC AND IT IS EASILY COLLECTED.

IT is estimated that one-sixth of the total national income finds its way into tax receptacles. Life is just one payment of taxes after another. It takes some hundreds of millions of dollars annually to keep books in such a way that honest men can escape the penitentiary. A banker tells us that between tax investigators and beggars he has no time for any regular business.

The Wall Street Journal speaks of "our benumbed taxpayers." They are likely to be more benumbed than ever, in spite of statistical economies, unless they wake up, study the theory of taxation and insist on tax methods that are scientific, simple and worthy of support. Mr. Mellon wants lower surtax rates, and there is a powerful movement in favor of a restoration of excess profits taxes and a heavy increase in inheritance taxes.

There is a tax that satisfies most of the requirements which a scientific tax ought to have. It bears on no man more than he can stand and enables him to determine, of his own accord, how much he shall pay; it is distributed over a long period in a great number of small payments; it is easily collected; the income to the Government is current; it takes no more than business and commerce can stand. It is commonly known as the Sales Tax, and this country is going to have to adopt it sooner or later.

EUROPE'S FOODSTUFFS PRODUCTION BEHIND PRE-WAR OUTPUT.

EUROPE in general is about 15 per cent behind its normal production of foodstuffs, says E. G. Montgomery, Chief of the Foodstuffs Division of the Department of Commerce.

Before the war European production of foodstuffs was about 95 per cent of its wants, while in the matter of clothing material such as wool, cotton, etc., it was on a 30 per cent self-supporting basis. A partial recovery, roughly about 15 per cent over the war period, is apparent when all commodities are considered. In general, Western and Central Europe are now on an 85 per cent consumption basis.

The consumption of wheat and rye is almost back to pre-war normal amounting to, viz., 92 per cent. The consumption of coarse grain is still about 74 per cent; potatoes 70 per cent; sugar about normal; and cotton 61 per cent. Also the caloric consumption of foodstuffs in the manufacture of alcoholic beverages is much lower than in pre-war years. The analysis says further:

"While this decrease in production and consumption was going on in Europe, there was a corresponding increase in production outside of Europe. However, this increase took place principally in North America, as there was no great

change either in South America or Australasia, the two other great surplus producing regions. During this period, also, Russia, which before the war furnished Western and Central Europe with almost half of their grain imports, was completely eliminated as a surplus country. The whole Russian trade has been shifted largely to North America and is now being supplied by the United States and Canada."

THE GOLDEN DAYS ARE STILL WITH US.

TODAY the cry is heard, as it was heard twenty years ago, that times are changed, that America is not the country of growth and achievement that it used to be, that the chances of youth for success are as nothing when compared to the chances of the fortunate ones that lived a generation ago." This statement came from Judge Elbert H. Gary, Chairman of the Board of Directors of the United States Steel Corporation, one of those successful men who have "come up from the ranks." The expression that we hear so much today that the golden days were the days of yesterday, according to Judge Gary, is not true. "It wasn't true a score of years ago and it won't be true a score of years hence."

Judge Gary wages war against the pessimist who expresses the gospel of defeat and declares these are the people who always prove its truth. "The silent ones twenty years from now will doubtless be the living examples of a past generation of success." He refuses to consider the viewpoint of some of our unfortunate youth who try to force upon the public the theory that industry is at the saturation point in that it has reached the degree beyond which it will not grow or develop, and that the youth going into the business world nowadays cannot hope to attain the success which those have achieved who entered it a generation ago. "Every generation brings forth the same cry, every generation is made up of the defeatist majority and the ambitious minority. The wise man turns his face from the crowds and looks towards the peaks. There is always room on top."

Judge Gary considers the most essential factor in this upward climb to be grit. He does not consider a college education the most essential asset, neither does he decry the man with the college degree, but both the college man and the man of little or no education must have grit in order to forge ahead. "I am strongly in favor of the college man who is anxious to get into industry and start at the point where the wheels go round. What a college training will do is accelerate the speed of movement for the first years of work." But he believes that the man of small education, if imbued with the proper amount of grit and stamina, will eventually reach that top rung, perhaps long after the college man, but he will get there. "Pleasures and play are the privileges of youth, certainly, but the possibility of showing the world that you are better than the next fellow is not without its element of cheer."

Judge Gary has devoted much time in an investigation as to the destination of the youth in the steel industry. "In almost every instance the positions of trust and importance were held by men who had started in our plants in some minor position. These men knew the extent of their ambitions and followed them right through along the line until the goal was reached." In contrast to the prevailing idea that the opportunities in industry have reached the saturation point, this man, who knows about business conditions, says: "This is the age of experiment and youth; we are open to new ideas; we are willing to give them a trial and a fair test of their strength. We profit in terms of efficiency; the man in terms of position. No industry is blind to the fact that in its youth lies its hope. Industry that is successful means movement, expansion, achievement, life. Movement, life—give me one word for all of them—that is youth."

Has a Cotton Boll Weevil Remedy Been Found?

PRESIDENT WANNAMAKER, OF THE AMERICAN COTTON ASSOCIATION, REVIEWS HAVOC WROUGHT BY THE INSECT AND TELLS OF REMARKABLE RESULTS ACHIEVED BY A NEW REMEDY, BACKED BY A STRONG AUGUSTA COTTON FIRM.

American Cotton Association

St. Matthews, S. C., December 4.

Editor *Manufacturers Record*:

I recently made a trip to Gough, Ga., for the purpose of investigating the Hill method of boll weevil control. Your Mr. John C. Cady was with me on this trip.

During the last quarter of a century, since the boll weevil commenced devastating the cotton crop of the South, thousands of remedies have been offered for the destruction of the pest, and up to the present time nothing has solved the problem. The dusting method of dry calcium, the method recommended by the Agricultural Department and the various agricultural colleges, seems to be the most efficacious. However, where it has been used under the most careful supervision, still there is a very heavy loss from the boll weevil, regardless of the many applications that are applied with the very latest machinery.

Another serious problem is the insufficient quantity of calcium arsenate and the cost of about \$15 per acre or \$50 per bale. If all the calcium arsenate in the world today could be secured for this purpose, we would only have a sufficient quantity, as shown by the best experts, to apply to 6,000,000 acres of cotton, which is less than one-fifth of the cotton crop.

At no time since the boll weevil first crossed into Texas has more effort been put forth than is being made today to secure a remedy whereby cotton can be profitably produced under boll weevil conditions, and at no time has the entire world been more alarmed, and justly so, over a solution of this problem.

In making this trip into Georgia, passing through our state capital, Columbia, and in noticing the names of the various streets—Cotton street, Indigo street, Rice street—and remembering that the streets of the capitol in the early days were named for the various agricultural products raised in those days to furnish all the names for the future state capital, and that today a very few of these agricultural products are grown at all in the state, I could not help but ask myself the question is cotton destined to follow in the footsteps of indigo, rice and other crops that have been abandoned in South Carolina and in the South Atlantic states?

In passing through the former rice plantations in the fertile coastal plain of South Carolina, and in viewing the magnificent colonial mansions, constructed largely from costly material imported from England and of the hardwoods of America, the workmanship being of the very highest class, and these magnificent mansions today deserted, standing as a monument to the great ante-bellum days; and in passing through the great rice plantations, the lands being as fertile as the valley of the Nile, seeing them densely covered with a rank vegetation of bamboo, briars, shrubbery and trees, and when I remember that there are eleven million acres in South Carolina that were in a high stage of cultivation in ante-bellum days and millions in the other Southern states, I could not help but again ask myself the question as to whether cotton would follow in the footsteps of rice. Especially was this question presented to my mind when I passed through the various court house towns in the most fertile sections of the cotton belt, a section which I passed through in 1918 and 1919, which then had the earmarks of great prosperity, but which today was marked with desertion and

poverty. I found in the court house towns thousands of tax executions in the hands of the Sheriff for the sale of property of the cotton farmers for the settlement of taxes which they were unable to pay, on account of the inroads of the boll weevil to a certain extent, but due more largely to the deflation policy of the Federal Reserve Board, which has brought about wreck and ruin.

On this trip, in one of the most prosperous counties, I learned that 10,000 tax executions had been placed in the hands of the Sheriff.

I saw thousands of the deserted farms, lands which formerly were producing wonderful crops of cotton, corn and other crops, now covered with rank vegetation, and the homes and plantations having the same abandoned look of the rice plantations.

I examined the cotton fields of the plantation of Mr. Hill and found that he had produced almost a full cotton crop during the present year. In fact, on his main farm, he produced 600 bales of cotton on 800 acres. I personally inspected the farm of a widow who planted and cultivated the crop with the labor of herself and six children, and found by gin receipts that she had produced 17 bales of cotton on 15 acres. We visited many of the renters who used this remedy devised by Mr. Hill and also farms on adjoining lands, and from each and everyone we received the strongest endorsement of the mixture, and the lands containing cotton stalks would prove that they had produced the cotton. They also had the gin receipts as further proof. I have no doubt as to the production of the cotton. I found that it was absolutely necessary to make very heavy applications of fertilizer to produce cotton under boll weevil conditions. There is no possibility of producing cotton except at a greatly increased cost—the preparation of the land, the cultivation and fertilizer and poisons, all greatly adding to the expense.

Mr. Hill informed me that after the expenditure of \$26,000 and years of hard work he has produced the liquid poison which he himself has been using for several years and which was used on the cotton referred to above during the present year. One matter of complete difference of judgment between Mr. Hill and the experts concerning the hazards of the boll weevils is this: he insists that the boll weevil feeds, not upon the squares, forms and bolls, but that the puncturing of these is done for the purpose of egg-laying; that both the female and male puncture the squares, forms and bolls for the purpose of furnishing a nest for the eggs, and that the boll weevil absolutely feeds upon the bloom of the cotton. Until the weevil can get food from the bloom, he sucks his food from the tender leaves of the cotton found in the heart of the stalk. Mr. Hill stated that he knew it was necessary to secure a food that the boll weevil would eat to enable him to poison the weevil; that his poison has the odor of the cotton bloom, and that by applying it in the heart of the cotton stalk, the boll weevil is attracted to it, eats it and is annihilated. The amazing part is the cost of the poison. Under Mr. Hill's method, it costs from \$2. to \$3. per acre at the outside, this being one-quarter to one-sixth the cost of the most popular methods.

I interviewed both white planters and negro planters and found them strong advocates of the poison, and the widow informed me that she had given up cotton planting and was in despair for a way to get an existence for herself and children, until she saw the result of the application of the Hill poison, and she was convinced that had she not used

this poison she would never have produced over two to three bales on the 15 acres, instead of 17 bales as shown above.

Mr. Hill claims that the land should be broken up in the fall of the year and thoroughly prepared; that the crop should be well fertilized, and that the poison should be applied just as soon as the cotton is cropped out, and that approximately six applications of the poison are sufficient; that by applying poison very early all of the migratory weevils are destroyed and thus they cannot reproduce, and that if all farmers would use the poison, poisoning would cease after killing the weevils from hibernation, but where other farms are infested, it is necessary to keep up the application of poison until around the 1st to the 15th of August.

Rains play an important part in boll weevil damage. The damage increases in proportion to the rainfall. In our adjoining county, Orangeburg, one of the largest cotton-producing counties of the belt, cotton production dropped from 115,000 bales two years ago to 12,000 bales during the present year. My county of Calhoun, one of the most fertile counties in the South, where cotton production and farming are carried on in the most scientific manner: still with the very latest methods of boll weevil control our production dropped from 45,000 bales two years ago to approximately 3000 bales during the present year.

If Mr. Hill's preparation will bring to other sections the benefit that it has brought to his, it will indeed prove a blessing. In 1918 and 1919 I made practically the same trip over the same territory that I made at this time. The difference was indeed startling. On my former trips, the earmarks of prosperity were plainly discernible. On this trip just the opposite was the case. In twelve counties the sheriffs' offices were loaded with tax executions, thousands of negroes have left, hundreds of farms have been abandoned, lands that on my former trip were not for sale could not be sold today at all, mules that on my former trip were selling for from \$400 to \$500, today were practically unsalable; cattle were a liability instead of an asset. In fact, one farmer told me after a desperate effort that he finally succeeded in selling his cow to a butcher and that he brought back one quarter, and the difference between the amount due him by the butcher for the entire steer and the price he paid for the one-quarter was \$2. In other words, he had to give the butcher the cow and pay the \$2 in addition for the privilege. The experience of the farmers in their efforts to produce truck crops of various kinds was indeed distressing. It is an exception to pass through a section where truck has been planted for the Northern markets. They had not been able to produce it.

I do not wish to state by anything I have said in the above that the boll weevil problem has been solved. I have only given the conditions as I found them. I am writing you this in great haste as I promised Mr. Cady to write you after my return.

The seriousness of this problem is presented in the following statistics which have been recently issued by the U. S. Department of Agriculture:

"The United States Department of Agriculture, by carefully prepared statistics, estimates the loss in cotton production for the year 1921 by Southern farmers, as a result of boll weevil infestation and damage, of 6,277,000 bales of cotton average weight of 500 pounds per bale. At an average selling price of 15 cents per pound, this amount of destroyed cotton by these rapacious insects represents a total net loss from that source alone of \$470,775,000, in gold or its equivalent, to the purchasing and debt-paying power of the people of the cotton states."

This boll weevil poison referred to above is the product of years and years of study and experiments by Mr. Dozier Hill, a wealthy and successful business man, a large land owner, merchant and farmer of Gough, Ga. Mr. Hill's father was a physician. He left a valuable library, to which his son, Mr.

Dozier Hill, fell heir, and Mr. Hill states that this library containing many books on chemistry and medicines, has been of untold benefit to him. Messrs. Barrett & Company, of Augusta, Ga., among the largest handlers of spot cotton in the belt and prominently identified with the agricultural and business life of the Atlantic States, have joined forces with Mr. Hill. In fact, it is my understanding that Barrett & Company have taken over the Hill proposition at a very heavy outlay of financing and thrown their full endorsement behind it. Barrett & Company are heavily interested in the production of cotton, have large holdings in various business enterprises, including cotton manufacturing, banking, etc., and they state: "we realized what our endorsement would mean and, therefore, did not give it until we knew that the Hill mixture would prove, beyond a shadow of doubt, of great value to cotton production."

J. S. WANNAMAKER,
President American Cotton Association.

NEW METHOD OF FIGHTING BOLL WEEVIL. Hill's Mixture Used With Results Shown to Be Highly Satisfactory.

[Special Correspondence Manufacturers Record.]

Augusta, Ga., Dec. 4.

An interesting attempt at boll weevil eradication is being made at Gough, Burke County, Georgia, with the utilization of Hill's mixture, composed of calcium arsenate, molasses as a binder, and a third ingredient to attract the weevil—this third ingredient is secret. The mixture is the discovery of L. D. Hill, a practical farmer.

In this section a widow, farming 15 acres with the help of her young son and daughter, raised 17 bales of cotton under boll weevil conditions using Hill's mixture. Several applications were made beginning immediately after the "chopping out" process. Nearby was a farmer who in 1920 produced 125 bales on about 100 acres and this season dropped to 15 bales, the 1921 production being 43. He had refrained from using the calcium arsenate dusting method because other farmers had used the method and poisoned their live stock. He stated that next year he would use Hill's mixture as a result of the success among other farmers in the locality. The method is said to require very little labor and to be one-third as expensive as the calcium arsenate dusting method.

A fourth farmer in the section reported having dusted the crop for two years under the supervision of an employee of the government station of Tallulah, La. This year because of the cost of dusting they used the Hill method, with the result of a greatly increased yield at less expense and trouble.

Practically all the negro farms in the section used the mixture this year and the average production was about a bale to the acre. And all this despite the unusually heavy rains experienced during August.

J. Skottowe Wannamaker recently visited Gough and vicinity and was much impressed by the success attending the experiments and he plans to use the mixture next year on his farm of 1500 acres. On Mr. Hill's farm of 812 acres the production this year was 604 bales, while Mr. Wannamaker on his large farm produced but 184 bales and not only dusted but used high grade fertilizer and cultivated intensively to boost production. The satisfaction with which the negro farmers are employing the mixture was heartily gratifying to Mr. Wannamaker who is alarmed at the exodus of negro farmers from sections where the boll weevil has practically ruined the cotton crop.

Leading fertilizer men of the country will visit Gough this month to make a survey of conditions, and steps will probably be taken to give farmers throughout the cotton belt the benefit of the experiments with Hill's mixture.

Can Rail and Water Carriers Cooperate in Meeting Transportation Problem?

QUESTION UNDER DISCUSSION, AT EIGHTEENTH CONVENTION OF RIVERS AND HARBORS CONGRESS—VIGOROUS DEMAND MADE FOR ADEQUATE EXPENDITURES TO COMPLETE IMPORTANT WATERWAY PROJECTS.

By ALBERT PHENIS

Washington, D. C., December 8.

Shall the railroads be permitted to cut rates to meet or overcome competition by water carriers was a question that in various forms occupied a prominent place in the proceedings of the Eighteenth Convention of the National Rivers and Harbors Congress, which was held here Wednesday and Thursday of this week. In a debate between S. J. Wettrick, of Seattle, and Frank Lyon of Washington, the issue was clearly joined as to whether the Interstate Commerce Commission should be required by law to strictly adhere to the provision in the original Interstate Commerce act which prohibits a higher rate for a short haul than for a long haul. The present law carries a provision permitting the Commission to make exceptions in certain cases, after an examination of the facts in each particular case. Mr. Wettrick, attorney for the transportation Department of the Seattle Chamber of Commerce, maintained that the railroads should be permitted to make such a rate between water points as would enable them to get a portion of the business, and Mr. Lyon, representing steamship lines and the Intermediate Rate Association, held that the railroads should under no circumstances be allowed to cut rates to get business. He pointed out that water transportation was but a small part—one-tenth of one per cent of the total transportation of the country, and that the railroads would, if given a free hand, cut rates as against coastwise and river traffic to such an extent as would drive the water carriers out of business, after which they could restore higher rates.

The injustice of permitting the railroads to make a lower rate to a water terminal 1400 miles distant than to an interior point 400 miles away was denounced by Representative Newton of St. Louis, and this principle was offered by various other advocates of the most complete development of the waterways of the country.

On the other hand, President C. H. Markham, of the Illinois Central Railroad; in commenting on the question, between sessions, said that the abolition of the discriminating long haul rate would in certain instances put a great burden on the railroads without in any way benefitting the interior community, which simply paid the same rate it always had paid, and if rates were reduced to interior points to a parity with the long haul rate established in certain cases, the revenues of the roads would be made unprofitable.

The convention was simply a forum, so the question was left where it was picked up, but the discussion was decidedly thought-provoking, and to many appeared as focusing the long-time and so far irrepressible conflict between the railroads and the waterways. Do the interests of the two methods of transportation conflict so vitally that co-operation is difficult if not impossible? Was the question suggested more than once during the proceedings.

Nevertheless, there were frequent appeals heard for a co-ordination of all means of transportation—airway included, and a declaration much applauded was that the people of the country were not interested in any one form as against another, but were interested in getting transportation that will move the products of the farm and factory at a price that will permit a profit.

A strong, stirring appeal in behalf of waterway development

was made by Representative Newton, who likened the waterway system in its present incompleted condition to a trans-continental system of railroads with an unfinished link. If there lacked only one rod of ground between two sections of the line, he pointed out, the road would be useless as a trans-continental system. Because there was an aggregate of only five miles of undredged channel in the Mississippi River, between St. Louis and New Orleans, the barge line, which had been operating at excellent profit earlier in the year, had been compelled to suspend operations during the low water stage. The Ohio also was useless a part of time, because all the locks and dams were not completed. He declared he favored economy in public expenditures, but denounced as a waste the failure to appropriate sufficient funds to complete projects of great potential value, now under way. The people have it in their power to secure action by Congress, for Congress will grant whatever it strongly asked for, he declared.

The necessity that the people get behind the engineers' report and demand an appropriation sufficient to cover their recommendations was emphasized by other speakers throughout the proceedings.

President Markham, of the Illinois Central Railroad Co., speaking on the topic, "The American Transportation Problem and Its Solution," declared that while present facilities of the railroads have been outgrown, the railroads have not broken down, but are handling a greater volume of business than ever before. Entering on a period that promises to carry the tide of business higher than ever known, there need be no apprehension as to the ability of the railroads to take care of the requirements of expanding business; "there is no limit upon the amount of transportation the railroads can furnish, *provided* they are given proper treatment by the public. "Remove restriction policies, so that the railroads can command capital required for additional facilities, as the railroads will then be able to meet transportation demands.

Mr. Markham declared himself in favor of water transportation wherever its use is practicable and economical, but he has said that "water transportation forms such a small portion of the domestic transportation of the country as to be infinitesimal when compared with rail transportation."

The problem of stabilizing railway credit so that the railroads will be enabled to secure funds for the necessary extensions and improvements — more engines, cars, sidings, second, third and fourth tracks, terminal facilities, etc., aggregating a total cost of a billion and a half dollars annually for some years—he declared to be the chief transportation problem before the country today.

"Public opinion controls all the regulatory bodies of the government, and a constructive public opinion, favorable to railroad development and profitable operation is essential. Railway men, not generally in the past paying as much attention as they should to the cultivation of a friendly public sentiment toward the railroads are now coming to see in its true light the value of a sound public opinion on railway questions. They are beginning to take the public into their confidence, taking more pains than ever before to explain the facts about railway management and operation—one of the most hopeful signs with regard to the situation," he declared. All

who are interested in the maintenance of adequate, efficient transportation can do nothing more worth while, Mr. Markham said in conclusion, than to make themselves missionaries in promoting a healthy public sentiment toward the railroads.

A. M. Lockett, acting president of the Board of Commissioners of the Port of New Orleans, speaking on "Mississippi River Transportation," referred to the recent visit he made to the ports of northern Europe—Antwerp, Rotterdam, Amsterdam, Bremen and Hamburg—several of which handle more tonnage than New Orleans, and all of which serve a hinterland not to be compared to that of New Orleans in magnitude or possibilities of future development. With practically every stream between the Rocky Mountains and the Alleghanies flowing into the Mississippi, so that anything that floats will by gravity be brought down the Mississippi to New Orleans, nature has destined New Orleans to be the great port of the world. The millions that have been spent on the docks and wharves of New Orleans, and on the Industrial Canal, now practically completed, and the plans for the development of the inner harbor, were referred to in demonstration of the realization by New Orleans of the important position it is destined to occupy. "We are planning to make that the greatest port and industrial development in the world," Mr. Lockett declared, and the co-operation of the country is desired to see that transportation on the Mississippi River is properly and adequately developed.

The operations of the Mississippi-Warrior Barge Line were described. The cost of transportation affects not only the development of the ports of this country but determines our position in the commerce of the world. The Federal barge line on the Mississippi, according to the figures of manager Brent, handled 655,789 tons of revenue freight during the fiscal year ending June 30, 1922, at a cost of \$2,432,463.71, and received freight charges of \$2,537,489.39, leaving a net freight income of \$121,027.06. With the shortage in railroad equipment and facilities, and the cheaper cost of water transportation, Mr. Lockett urged that the importance of fostering and developing river transportation to the uttermost was self-evident.

Some very practical suggestions and facts were presented by Maj. General Lansing H. Beach, Chief of Engineers, U. S. Army, on the subject of "Water Terminals." The proper construction of piers, wharves and warehouses was given in detail, and the necessity pointed out of providing all facilities necessary to shorten the time required in holding a ship in port for loading and unloading cargoes.

As illustrating the magnitude of inland waterway transportation in the United States, Mr. George Bruce, chairman of the Board of Harbor Commissioners, Milwaukee, stated that while the Suez Canal carried 17,514,651 tons of freight in 1920, and the Panama Canal 11,599,214 tons, the "Soo" Canal carried 79,282,919 tons, or nearly 3 times as much as the two combined. With a total export and import tonnage of 65,000,000 tons, the lake tonnage exceeds the 200,000,000 mark. On a basis of rail charges, this lake tonnage represents a saving of over \$500,000,000 annually.

The importance of the Atlantic Inter-Coastal Waterways as a link in the national development of waterways was stressed by Wilfred H. Schoff, of Philadelphia, secretary and treasurer of the Atlantic Deeper Waterways Association, who urged standardization of canals and waterways as necessary to the full usefulness of these means of transportation, just as the standardization of the railroads was required before they reached their present importance as national carriers.

In speaking on "The Future of Gulf Ports," Mayor W. E. Lea, of Orange, Tex., said that in studying the question in preparation for the address he had been so overwhelmed with the possibilities during the next fifty years that he had deemed

it sufficient to confine his chief consideration to the immediate future of these ports. Fifty years ago there were but three ports on the gulf considered as deep water ports—Mobile, New Orleans and Galveston—while now there are seventeen ports between Key West and Brazos Santiago, the latter with the minimum authorized depth of 18 feet, while nine of them have an actual or authorized depth of 30 feet. The Caribbean, the misnamed Mediterranean of America, carries greater and more valuable cargoes than the Mediterranean ever aspired to carry. The Sabine district of Orange, Beaumont and Port Arthur leads the ports of the nation in shipments of petroleum and petroleum products; New Orleans, with its cotton and grain and the miscellaneous commerce of twenty states, is the second port in the country, and Galveston led all the ports last year in shipments of grain. Houston "where 17 railroads meet the sea," was declared to be the fastest growing port in the South. From the ports of the gulf go shipments of lumber, sugar, sulphur, phosphate, hides, as well as cotton and grain, and the products from every state in the Union, their ships sailing every quarter of the seven seas. The Sabine District shipped less than 100,000 tons in 1900, while in 1921 over 12,000,000 tons passed over Sabine bar. In oil refineries alone there are invested in the district over \$300,000,000, in physical construction and land while one company alone has authorized the further expenditure during the next two years of \$12,000,000, chiefly in wharves and shipping facilities—certainly an answer to the query as to whether the oil industry is to be an ephemeral or a permanent one. The tonnage of the gulf ports has grown from 7,688,977 tons in 1900 to 42,181,170 tons in 1921, an increase of nearly 600 per cent in 21 years and of nearly 400 per cent in the past ten years. The government has spent \$75,951,973.34 on gulf ports to date, and private and municipal interests have spent many millions more in port facilities. Considering the government's investment of \$76,000,000 at 4 per cent—a total annual interest of some \$3,000,000, this means a cost to the Federal government of 7½ cents a ton for the 42,000,000 tons of freight imported and exported through the gulf ports. Impressive as these facts are, it is of greatly added significance that the per ton cost will decrease each year as the commerce grows.

In requesting information as to what the various ports of the Gulf expected to spend in port facilities during the next ten years. I was astounded by the replies my inquiry brought forth. In the light of what has been done, and with plans already definitely formed for future development, is it possible to visualize the future of the gulf ports without our hearts swelling with pardonable pride?

Roy Miller, for many years mayor of Corpus Christi, Tex., who is a moving spirit in the construction of an "intercoastal waterway" from New Orleans to the Rio Grande, a distance of about 800 miles, spoke of importance of this proposed waterway, the building of which was strongly urged at a public meeting recently held at Houma, La. Such a waterway, which has received the favorable consideration of the Board of Engineers, would save the people of the coast country of Louisiana and Texas the entire initial cost of construction every year. Mr. Miller declared, and he urged that this and similar improvements be demanded not as a favor but as a right, as a part of a great transportation system.

The determination of the people of Corpus Christi to make of that city a deep water port were referred to by Mayor Lea in his speech as symbolical of the energy and indomitable courage of the people of Texas. In 1919 the business port of Corpus Christi was almost destroyed by a tropical storm. Within a year a breakwater was being erected, the people of seven surrounding counties joining with the people of Corpus Christi in pledging their ad valorem taxes for 25 years for the protection and upbuilding of the port. Corpus Christi has secured authorization for a channel 200 feet wide and 25

feet, with the provision that it shall contribute \$3,500,000 for the erection of adequate port facilities, which it proposes to do, in the belief that Corpus Christi will in time become one of the important ports of the South.

At the election of officers President John H. Small and Secretary S. R. Thompson were unanimously reelected.

Largely attended, by highly representative men (also many women,) from their various sections, the Convention ended last night with a banquet presided over by J. Hampton Moore, Mayor of Philadelphia, at which the speakers included Ambassador Jusserand, Secretary Weeks and Mrs. Winfred Mason Huck, newly-elected member of Congress at large from Illinois.

The Literary Digest's Poll on Prohibition.

Rev. G. W. Gardner of Greenwood, S. C., sends to the MANUFACTURERS RECORD the following letter with the request that we publish it as throwing some light upon an important question:

Greenwood, S. C., Nov. 15, 1922.

Editor Literary Digest:

I am in receipt of your letter requesting that I subscribe for the Literary Digest in order that I may be well informed, well balanced and in touch with the difficult and crucial questions of the day.

You direct especial attention to your finding out the opinion of the country on outstanding questions by nation wide polls. I am told, "You have probably followed the poll that the Digest took to find out what ten million American citizens thought about prohibition and the bonus. The results of this poll have been discussed editorially again and again by practically every newspaper in America, and have been commented upon by leading public men here and abroad. It is in just such unique ways as this that the Digest is able to serve its readers."

Yes, I know about the prohibition vote, and pardon me for saying to you that no greater injustice has ever been done the cause of Prohibition than was done by that vote. In the first place, why a vote at all? The law has been passed, and become a part of the Constitution, and why should not the Digest with its wonderful power have stood for its strictest enforcement instead of tampering with it in trying to find out what American citizens thought of it? In the second place, I deny that the Literary Digest got the opinion of American citizens as a whole. It got the opinion of many foreign born people who are solidly against all laws of our nation that do not suit them. I received no request that I recall for a vote upon this question and there are thousands of other prohibitionists who received none.

Had I received one, why should I have voted upon a law passed by Congress and made a part of the Constitution and supposed to be in force? Was it not my duty to have passed your inquiry up and told you that I was a law abiding citizen and as such had no option in the matter?

I have read the Digest as a subscriber for years, and I wish that instead of seeking to find out public opinion in ways that can never be at all satisfactory, it stood solidly behind law enforcement regardless of what the public might think.

I believe that if your vote could have ascertained the opinion of the truly American people it would have shown a large majority in favor of the Eighteenth Amendment. I have no fears as to the final outcome of prohibition, but I do regret exceedingly that the Literary Digest should have furnished the liquor crowd of this nation a club with which to strike at the Constitution, the very vitals of our great government.

Pardon me for my candor, but I could not say less and I am expressing not my sentiments alone, but the opinion of thousands of as good men and women who live in the South as can be found in the world. I wish the editor of the Literary Digest would take the bold stand that Mr. Richard H. Edmonds, editor of the MANUFACTURERS RECORD, does upon this question, and upon all others.

G. W. GARDNER.

Models of Currie and Richland Oil Fields.

Peg models of the Currie and Richland oil fields in Texas have been constructed by members of the staff of the Bureau of Mines field office at Dallas, Tex. These models will probably be displayed at Currie, and will be kept up to date for the information of oil operators working in those fields.

Atlanta Now Entering on Program of Building Totaling \$10,000,000.

Atlanta, Ga.—Taking into consideration the construction contracts to be awarded before the first of the year and including the large number of projects actually under way, the month of January will find this city in the midst of a \$10,000,000 building program, according to F. M. Noland of the Atlanta Builders' Exchange. For months architects of Atlanta have been busy projecting plans for the greatest period of construction activity in the history of the city. In addition to the work already begun, the Rice Department Store will be under construction by next month. Several new office buildings and bank buildings, schools, the Spring Street viaduct, and many apartment houses and residences that have already been contracted for, will be rapidly completed. Indications point not only to a continuation of building at the present rate but toward a steady increase for some months to come.

Although the 1922 program involved the expenditure of about \$20,000,000, builders look for it to be eclipsed during the coming year. Two new high schools to cost \$3,000,000 will be erected in 1922 and there are other school buildings yet to be designed and contracted for, in addition to the structures now going up. The demand for houses will, it is believed, continue for many months. Several subdivisions are to be opened for sale this winter and in the early spring months. It is probable that a considerable number of new houses will be erected on these lots.

Requests for bids are coming to local contractors from all sections of the South, and cover practically every variety of structure.

"The South and Atlanta," said Mr. Noland recently, "have never experienced such a wave of worthwhile construction, and it appears as though the big demand for buildings of every kind will enter upon the coming year without abatement. We can look forward confidently to a continued period of prosperity for the building trade and the industries allied with it."

Indications of Country's Expanding Business.

Further figures received by the Department of Commerce in connection with its monthly Survey of Current Business show even greater industrial activity in October than previously reported. The output of almost all basic commodities showed large increases sometimes even in the face of an expected seasonal decline. The following list of commodities, among others, showed the largest output in October for any month since 1920; Pig iron, steel ingots, coke, copper, zinc, cement, brick, maple flooring, North Carolina pine, petroleum, knit underwear, and the consumption of cotton, silk and newsprint paper.

Corresponding increases are shown in the activity of all distributive movements. Sales by department stores, chain stores, and mail-order houses show large increases and are far ahead of the corresponding month of last year. The same is true of wholesale trade.

The larger volume of bank clearings and the greater demands for money clearly indicate the country's expanding business.

Export trade at \$372,000,000 for October is the largest for any month since March, 1921.

City Market Building for Lynchburg.

Lynchburg, Va., December 2—Contract for a city market building here will probably be awarded early in January. Plans call for a concrete structure 100x240 feet. W. C. Northup is the architect and Wiley & Wilson are the engineers.

Activity in Manufacture of Furniture Makes for Prosperity at Mt. Airy, N. C.

GRANITE QUARRIES AND HOSIERY MILLS ALSO BUSY—AGRICULTURE AND FRUIT RAISING OF GROWING IMPORTANCE.

By CARROLL E. WILLIAMS,

Mt. Airy, N. C., December 2.

This city, the gateway to the mountain country surrounding, is today extremely active and development is going forward at a rapid rate. The big furniture factories, the large granite quarries and auxiliary plants, the huge hosiery mill and other important industries are all working at capacity and their products are selling at satisfactory prices as fast as they can be produced. In the surrounding territory agricultural development is keeping pace with the expansion in other lines and the fruit growing industry is receiving attention on an extensive scale. When depression and hard times prevailed in many parts of the country construction work here went steadily forward, business building was unimpaired and improvement marched ahead unchecked so that there has been no cessation of activities in recent years. The growth has been steady and well rounded.

About 250 men are working overtime at the National Furniture Company plant of which A. E. Smith is the president. He states: "We have all the business we can handle and are now completing a building program involving the expenditure of \$100,000 which will greatly increase our output. Since January 1, I have been in 43 states and in no section have I found such prosperity as is evidenced here. For 21 years I have been going regularly to Grand Rapids annually and my last visit convinces me that conditions are better in this line than for many years."

The Mt. Airy Mantel & Table Company is employing 225 men in the production of dining room and hall furniture. According to George O. Graves, president, orders are in hand insuring capacity operation and there is plenty more business in sight. "We are experiencing some difficulty in getting the necessary supplies," states Mr. Graves, "but otherwise conditions are very good. We are going over our entire plant and making improvements to insure maximum efficiency of operation and thereby increase our output and at the same time reduce manufacturing costs so that we can sell our product at reasonable prices. Included in this work necessarily will be new buildings and machinery."

The Mt. Airy Furniture Company and the Mt. Airy Chair Company are operating at capacity. The Foy Lumber & Manufacturing Company is working especially on supplying the demand for building materials of all kinds particularly for residence construction. Holcomb & Midkiff engaged in the wholesale and retail hardware business report October the best sales month in the history of the firm and look for a bright future. Payments are very prompt and improving.

T. C. Barber, secretary-treasurer of the Renfro Hosiery Mills Co., states: "We are selling everything we can produce and the demand is fine and prices fair, and generally conditions are much better than a year ago. If cotton does not reach too high a level prospects for next year are good. We are running full time with 150 operatives and selling our output in the United States, Canada, and Cuba. Recently we installed \$20,000 in new equipment and we will add to our facilities during the coming year. This is one of the few plants of its kind in the country specializing in infants' cotton socks in all colors."

The J. E. Wilson Marble & Granite Works reports business improving and in the near future will make additions to its plant and install new equipment.

A \$30,000 nine-room school building was recently completed

according to J. C. Hill, secretary of the school board. The teaching force at the city schools has been increased from eight to forty in a year. Plans for a junior high school building are now being discussed. In the county many of the smaller schools have been consolidated into six to eight teacher schools and trucks have been purchased to carry the children to and from school.

The electric light and power system is owned by the municipality and is proving very successful according to A. V. West, Mayor. Power is being supplied to local plants. The city's paving program involves the expenditure of \$200,000 while the recent sewer improvements cost \$75,000. The complete sewer system will be 20 miles long. Several state highways pass through Mt. Airy and the city has made provision for paving these streets from curb to curb.

According to J. B. Sparger of the County Highway Commission, about \$150,000 will be spent in road improvements next year. Around \$100,000 is the cost of such work in 1922. The county road force on upkeep consists of eight sections, each with a foreman and a superintendent over the entire force. Of the 375 miles of improved roads in the county system the state has taken over 84 miles. In four years \$725,000 has been expended in roads and about \$400,000 on from 200 to 300 steel and concrete bridges.

Extensive improvements and additions are being made to the Martin Memorial Hospital established here by Dr. M. S. Martin. The work consists of a hospital addition, which will increase its capacity 25 per cent, and a nurses' home. The buildings are of fireproof construction.

A large number of modern business houses are being erected close to the center of the city. In the near future work will commence upon a two story stone building for the Bank of Mt. Airy, of which W. J. Byerly is president. The structure will cost approximately \$75,000 and the banking equipment and vaults will be of the latest and most approved design. Plans have been completed by Harry Barton, architects of Greensboro. About \$25,000 will be the cost of the new building for Haymore Memorial Baptist church. A new parsonage had been completed by the Rockford Street Methodist Church and a \$25,000 church structure will be finished soon. The Central Methodist Church plans spending \$50,000 for a new building in the spring. Granite Lodge of Masons expects to build a \$100,000 home in the near future and a campaign for funds is proving very successful. The First Baptist Church is making extensive improvements to its property.

Conditions are a great deal better especially during the last two months, since tobacco sales have gotten under way, according to T. G. Fawcett, president of the First National Bank, adding: "The crop is the best in ten years both in quality and in size, and prices are good. Farmers are paying debts contracted three years ago. Our deposits have recently increased, the merchants in the city report better business and improved collections and we are just now feeling the first effect of the buying movement on the part of the farming classes."

"This section did not know what it was to be hard up during the depression period," states W. J. Byerly, president of the Bank of Mt. Airy who says further. "We have not discounted a piece of paper in three years, our merchants

are in a good financial condition and business is normal in manufacturing and allied lines. In the last twelve months the town has grown more rapidly than at any time in the past fifteen or twenty years. We will start work soon upon our new \$75,000 building. This year our deposits have increased \$250,000 and are now \$1,100,000.

The Marshall Wagon Co. engaged in building and repair work reports satisfactory business conditions with a bright outlook for the future.

"All through this section and in the adjoining Virginia counties conditions are decidedly improved this fall," states A. V. West, secretary-treasurer of the West-Hill Company. "For two years past crops have been poor and prices low but this year crops and prices are both good. The fruit industry is being given more and more attention in this section."

About 350 persons are now employed at the quarry of the North Carolina Granite Corporation near here. The finishing companies J. D. Sargent Granite Co. and Lemmerman & Hoffman Granite Co. are also working at capacity with several hundred men employed.

The granite produced at the Mt. Airy quarry is used in monuments, buildings, homes, bridges, etc. throughout this country and abroad. The North Carolina Granite Corp. has started a program for building cottages for its employees and a complete town eventually will be established. Most of the workmen are "native" although many outsiders are locating here permanently. The granite quarrying and cutting industry is one of the largest. The quarry was first opened more than 30 years ago and now there are about 68 acres of granite uncovered. From the general formation it appears that the stone is one solid mass. Unique methods of removing the granite are used because of the nature of the deposit. For instance, the stone is an outcropping on the hillside; near the base are railroad tracks skirting the granite area and alongside are the finishing plants. The rough stone is conveyed to these plants by steel cableways of which there are eleven having a capacity of ten tons each. Heavier blocks are conveyed via narrow gauge tracks directly into the finishing plant.

The manner of forming "ledges" used at this quarry is especially interesting and unusual. Most of the "ledges" are formed in the summer as this method has been found to work most successfully during that season. The process is basically as follows: For illustration, a granite block six feet through is required. The first step is to drill a hole one inch in diameter into the rock to a depth of six feet. Then a small charge of dynamite is placed at the bottom of the hole and exploded, thus forming a cavity at the base. A compressed air line is placed in the hole, connected with the compressors and thoroughly sealed. Air at 60 to 80 pounds pressure is forced into the cavity formed by the explosion and this pressure, together with the action of the heat of the sun, gradually forms a seam that spreads out in a circular area and effectively creates the necessary "ledge." Under this method the granite will taper from practically nothing to a maximum of six or more feet. It can then be cut into blocks of the desired size and removed either by the cableways or narrow gauge cars.

The fruit growing industry of the surrounding territory is attracting more attention each year. It started in 1906 with the planting of the Sparger orchards. Among those now operating are the following: Sparger Orchard Company, 300 acres; Granite City Orchard Company, 120 acres; and Coveland Orchard Company, 500 acres. The Mitchell's River Orchard Company has just been organized and will plant ultimately 500 acres in apples and peaches. This year 100 acres will be planted in apples and 50 in peaches. Among those interested in the new project are John Capp, John Wilmoth, Elliott Chatham, R. A. Freeman, John Ri-

chards, Ben. Thompson, Morgan Cochran, and J. B. Sparger. In addition to 35,000 barrels of apples of 210 cars shipped from this section during the 1922 season a large quantity of dried apples went to the market from here.

The peach crop this year was fair and about 30 carloads left Mt. Airy.

Not only is Mt. Airy becoming a distributing area for fruit but increasingly large quantities of onions, potatoes, cabbage and other vegetables are shipped yearly. The growing of cattle is actively encouraged and 25 carloads have been shipped this year.

The Alpine Woolen Mills has just been incorporated with a capital stock of \$50,000. An established mill has been acquired and is now producing slasher-cloth yarn. The officers include: R. H. Whitehead, Burlington, N. C., president; Blanche G. Lindsay, vice president; and W. E. Lindsay, secretary-treasurer and manager.

Many persons in the mountain sections are operating portable lumber mills at a profit and selling their product to the furniture and woodworking plants located in this city. For a radius of 20 miles this lumber is brought to Mt. Airy by teams of horses and oxen.

Studies of Farm Co-operation.

Investigations in agricultural co-operation by the United States Agricultural Department making available valuable facts on the economic, organization, and legal phases of this subject, according to Secretary of Agriculture Wallace. These results are regarded as particularly valuable at this time in view of the great interest in co-operation. The studies include individual co-operative organizations both in the United States and abroad.

A survey of the legal phases of co-operation has just been completed and published as Bulletin 1106. The bulletin discusses in non-technical language the elements and characteristics of incorporated and unincorporated associations, the responsibilities and liabilities of members, officers and directors and kindred matter.

The story of what the Department of Agriculture has done and is doing with regard to co-operative marketing would be incomplete without a list of the publications which have been issued from time to time concerning various phases of the co-operative problem. The list includes Department Bulletin 1106 entitled "Legal Phases of Co-Operative Associations;" Department Bulletin 937 entitled "Co-Operative Grain Marketing;" Farmers' Bulletin 1144 entitled "Co-Operative Marketing;" Department Bulletin 541 entitled "Co-Operative Organization By-Laws;" Department Bulletin 547 entitled "Co-Operative Purchasing and Marketing Organizations Among Farmers in the United States;" Department Bulletin 860 entitled "The Organization of Co-Operative Grain Elevator Companies;" Department Bulletin 1005 entitled "Producers' Co-Operative Milk Distributing Plants," and Department Bulletin 394 entitled "A Survey of Typical Co-Operative Stores in the United States."

Construction to Begin Soon on Y. M. C. A. Building.

Fort Worth, Tex.—Plans for a new Y. M. C. A. building on which construction is to begin shortly after the first of the year are about complete. The structure will be 100 by 96 feet, four stories high with basement, constructed of brick with limestone trimmings. Ralph E. Squires is general secretary of the Association while A. G. Carter is chairman of the building committee.

To Erect Church Building.

Atlanta, Ga.—The Druid Hills Presbyterian Church plans the erection of a new building of brick and stone to cost approximately \$100,000. A site has been selected and Pringle & Smith of this city named as the architects.

Road Building in America Has Become an Industry of Vast Proportions—Show and Congress at Chicago in January.

So extensive has the road building industry become in this country and so vast is the future program of highway improvement that the Thirteenth American Good Roads Congress and Fourteenth National Good Roads Show to be held in Chicago, January 15 to 19 next promise to set a new standard in the road development of the nation. Both events will be held under the auspices of the American Road Builders' Association, the oldest and largest good roads organization in the country, and the one that has brought about so much Federal and state aid in highway improvement.

Approximately one billion dollars are now being spent annually in the United States for new roads and streets, a sum far greater than was spent for railroads during their greatest era of expansion and sufficient to build half a dozen Panama Canals. Notwithstanding that the road building program is so enormous, highway improvement still lags behind development of highway transportation. The development of the automobile and the motor truck, according to highway officials and automotive engineers, has forced good road construction until it is difficult now to tell whether automobiles are causing the increasing demand for better roads, or whether good roads are responsible for the increasing demand for motor cars. About \$1,200,000,000 will be spent in America for roads and streets next year and about \$1,350,000,000 will be spent for automobiles and trucks.

All of these questions will be discussed at the Chicago meeting, together with such subjects as methods of financing road improvement, safety on the highways, progressive methods of construction, obligations of highway departments to the public, traffic regulations, results of testing the various types of roadway, development of apparatus for testing roads, the use of local road building materials, subgrade designs, haulage methods in highway construction, time losses in completing new roads, road building in winter, highway maintenance, salvaging old roads, tourist traffic as a factor in highway development, changes needed in motor vehicles legislation, highway research and co-operation between state and county highway departments and between engineers and contractors. In conjunction with the Thirteenth Good Roads Congress the American Road Builders' Association, the National Crushed Stone Association, the Midwestern Section of the American Association of Civil Engineers and several other organizations will hold their conventions in Chicago during the week of January 15.

One of the features of the Fourteenth Good Roads Show will be a mammoth exhibit by the United States Bureau of Public Roads in which the Government will set forth everything it is doing in the way of highway construction. An attractive feature of the exhibit will be a large model illustrating the type of highway the Government is building in the National forests,—the road model being supplemented by a colossal painting in oil to form a background for the whole. Models of bridges and roads at various stages of construction will be on display at the Government exhibit, as well as new testing apparatus, numerous charts showing the progress of Federal aid work and a large assortment of road materials.

The Congress will be held at the Congress Hotel and the Exposition will be at the Chicago Coliseum. Registration and information booths will be established at the Congress Hotel and Coliseum, and a good roads newspaper containing complete information as to the day's happenings at both Congress and show and giving the names of arriving delegates will be published daily throughout the week.

Following is the official program of the convention which will be presided over as chairman by Thomas J. Wasser,

State Highway Engineer of New Jersey and president of the American Road Builders' Association.

Tuesday Morning, January 16, 10 A. M.

President's Address—James H. MacDonald, Treasurer, American Road Builders' Association.
Continued Highway Expenditures Required to Meet Traffic Demands of the Future—Thomas H. MacDonald, Chief, U. S. Bureau of Public Roads, Washington, D. C.

Progressive Construction of Highways.
(2) Practice in North Carolina—By C. M. Upham, State Highway Engineer, North Carolina.
(b) Practice in Iowa—By C. Coykendall, Assistant Chief Engineer, Iowa Highway Commission.
The Obligation of the State Highway Department to Keep the Public "Sold" on Highways—H. E. Hiltz, Acting Chief Engineer, Pennsylvania State Highway Department, Harrisburg, Pa.

DESIGN.

Tuesday Afternoon, January 16, 2:30 P. M.

Chairman—Thomas H. MacDonald, Chief, U. S. Bureau of Public Roads.

What Test Roads Results Have Taught Us.

(a) Bates Test Road, Clifford Older, State Highway Engineer, of Illinois, Springfield, Ill.
(b) Pittsburgh Test Road, Lloyd Aldrich, Consulting Engineer, San Francisco, Cal.
(c) Arlington Tests: A. T. Goldbeck, Engineer of Tests, Bureau of Public Roads, Washington, D. C.
Development of Apparatus for Field Testing of Roads.—H. F. Clemmer, Testing Engineer, Division of Highways, Springfield, Ill.
Developments in the Use of Local Materials—Vernon M. Pierce, District Engineer, U. S. Bureau of Public Roads, Washington, D. C.
Designed Subgrade—C. M. Upham, State Highway Engineer, Raleigh, N. C.

CONSTRUCTION.

Wednesday Morning, January 17, 10 A. M.

Chairman—J. H. Cranford, President, Cranford Paving Company, Washington, D. C.

Haulage Methods in Highway Construction.

Industrial Railways: A. J. Parrish, General Contractor, Paris, Ill.
Heavy Truck Haulage: Charles H. Fry, Charles H. Fry Construction Co., Erie, Pa.
Light Truck Haulage: A. E. Horst, Henry W. Horst Co., Rock Island, Ill.
How to Equip and Operate Local Gravel Pit to Produce Concrete Aggregate—H. E. Knelling, Consulting Engineer, Wisconsin Highway Commission, Madison, Wis.
How Much Time is Lost in Delays in Highway Building?—H. K. Davis, Chief Inspector, Iowa Highway Commission, Ames, Ia.
Discussion: R. H. Piepmier, State Highway Engineer of Missouri, Jefferson City.
What Roadbuilding Work Can Be Done in Winter?—John H. Mullen, Chief Engineer, Minnesota Highway Department, St. Paul, Minn.

MAINTENANCE

Thursday Morning, January 18, 10 A. M.

Chairman—A. R. Hirst, State Highway Engineer, Madison, Wis.
Organization of Intensive Maintenance on a State Highway System in Eighteen Months—Frank Page, Chairman, North Carolina State Highway Commission, Raleigh, N. C.

Four Years' Experience With Patrol Maintenance in Wisconsin—J. T. Donaghey, Maintenance Engineer, Wisconsin Highway Commission, Madison, Wis.
Gravel Road Maintenance Practice in Michigan—L. H. Nielsen, Deputy State Highway Commissioner of Michigan, Lansing, Mich.
Blade Grader and Road Drag Earth-Road Maintenance in Iowa—W. H. Root, Maintenance Engineer, Iowa State Highway Commission, Ames, Ia.

Salvaging and Maintenance Macadam Roads.
W. A. Van Duzer, Assistant Maintenance Engineer, Pennsylvania Highway Commission, Harrisburg, Pa.
Discussion: A. W. Muir, Superintendent of Maintenance, New Jersey Highway Commission, Trenton, N. J.

TRAFFIC.

Thursday Afternoon, January 18, 2:30 P. M.

Chairman—Thomas J. Wasser, State Highway Engineer, New Jersey.

Tourist Traffic as a Factor in Highway Development (Illustrated).—A. R. Hirst, State Highway Engineer of Wisconsin, Madison, Wisconsin.

Changes Needed in Motor Vehicle Legislation and License Fees.
J. N. Mackall, Commissioner of Roads, Baltimore, Md.
Discussion: Leon C. Herrick, Director of Highways and Public Works, Columbus, Ohio.
Harry Meixell, Jr., New York, National Automobile Chamber of Commerce.
Election of Officers.
Business Meeting.

FINANCE AND MISCELLANEOUS.

Friday Morning, January 19, 10 A. M.

Chairman—Frank Page, Highway Commissioner of North Carolina.
Have Large Expenditures Changed the Public Attitude Toward Highway Development?—S. E. Bradt, Former Superintendent of Highways of Illinois.

Co-operation Between State and County Highway Department—L. C. Herrick, Director of Highways and Public Works, Columbus, Ohio.
How Individual Organizations Can Fit Their Work Into the Broad Highway Research Program—W. K. Hatt, Director Highway Research Committee, National Research Council, Washington, D. C.

World-Wide Prohibition Receives Tremendous Impetus at Toronto Meeting.

SIXTY-SIX COUNTRIES, IN GREATEST PROHIBITION CONVENTION EVER HELD, PLEDGE CONSECRATION TO MOVEMENT TO MAKE THE ENTIRE WORLD DRY — MOST SIGNIFICANT AND INSPIRING EVENT IN ALL HISTORY OF WARFARE ON THE LIQUOR TRAFFIC.

By ED. J. RICHARDSON, Westerville, O.

When the representatives of sixty-six countries assembled for six days, with five sessions a day, discuss ways and means for world-wide prohibition of the liquor traffic, it is time for the indifferent to awaken, the discouraged to take heart and the enemies of prohibition, if they are wise, to prepare for the end of an evil which exists only because of avarice and appetite.

This statement but epitomizes the recent International Convention of the World League Against Alcoholism which was held in Toronto, Canada, November 24-29, 1922.

While the World League Against Alcoholism was brought into existence in Washington, D. C., June, 1919, the meeting in Toronto was the first actual convention of the organization. From the masterful, prophetic, convincing key-note address of Doctor Ernest H. Cherrington, the general secretary, at the beginning, until the powerful, thrilling summary and worldwide appeal by Doctor Robert B. S. Hammond, of Sydney, Australia, at the closing session, there was sustained and increasing interest. There was no anti-climax and at nearly eleven o'clock at night, when Doctor Hammond called for standing pledges of loyalty to the purpose of a dry world the great audience rose to its feet and almost spontaneously burst into singing "Onward, Christian Soldiers!"

For many months extensive correspondence had been conducted, both by cable and letter, and a program covering practically every phase of the alcohol and prohibition question had been prepared. It was remarkably well carried out, both as to personnel and time. Only a very few appointees were absent.

One of the important features of the convention was the twice-daily conference discussion of practical questions bearing upon "ways and means" of publicity, scientific instruction, law-enforcement, literature, co-operation, financing, etc. Besides the regular provisions of the program, state, provincial and other conferences were held by delegates from their respective communities and countries, where were sought the best means of promoting local prohibition and co-operating in the larger movement for prohibition for the world.

Probably the outstanding feature of the convention was the banquet in the great hall of the King Edward Hotel the Saturday night of the convention. Almost one thousand persons were assembled, Bishop Thomas Nicholson, of Chicago, president of the Anti-Saloon League of America, being toastmaster. While there were a number of responses to toasts, practically every vestige of the usual formality of such occasions was swept aside when there came the "Roll-call of Nations," and on the evening of the second day of the convention delegates from fifty-nine countries rose in their places in response. From the response from Africa, down through the great list of countries, to the appearance of a young woman lawyer from the Philippines, enthusiasm almost ran riot, and each appearance was greeted with resounding applause. The scene cannot be adequately described.

The representative character of the gathering can be illustrated, in part, by saying that there were present such figures in temperance reform as Hercod, of Switzerland; Strecker, of Germany; George B. Wilson and Saleeby, of England; E. A. Munro, of Scotland; Ley, of Belgium; Gallienne, of France; Ledet, of Denmark; Hammond, of Australia; Ostlund, of

Sweden; Ruanhelmo, of Finland; Kepels, of Latvia; Furnajieff, of Bulgaria; and such elect-ladies as Miss Agnes Slack, secretary of the World's Woman's Christian Temperance Union, of England; Mrs. Moffatt Clow, of Ireland; Mrs. Barton and Mrs. Milne, of Scotland; Madame Prior, Vice-President of the World's W. C. T. U., of Denmark; Mrs. Gordon Wright, of Canada; our own Miss Anna A. Gordon, President of the National and World's W. C. T. U.; Mrs. MacLeod, of Australia; Mrs. Jean Begg, of New Zealand; Miss Uta Hayashi, Mrs. Guchi Kawamata, Mrs. O. Kubushiro, of Japan; Miss Hardynia K. Norville, of Argentina. Space will not permit a full list of the sixty-four countries outside of the United States and Canada which were represented, but it may be worth while to say that the two brilliant natives who accompanied "Pussyfoot" Johnson through India were also present, Messrs. T. P. Sinha and J. Niyogi.

The personnel of the convention included the capitalist and the labor union man, the captain of industry and the "man on the street", university and college professors and students from the United States, Canada and many parts of the world.

There were no more enthusiastic participants than that splendid body of students who came from various American and Canadian institutions. Their reports and appeals were captivating, and in this body of men and women lies principally the hope of a dry world. There was hardly a phase of activity interested in human uplift or the great scientific, economic and political questions of the day as related to the prohibition question which was not represented.

The convention was emphatically a convention not only of experienced leaders in prohibition reform but of hard-headed folk, seriously seeking the solution of great human problems. One of the notable addresses was made by Congressman John G. Cooper, of Ohio, himself a member of the Brotherhood of Locomotive Engineers, and his refutation of the charge that labor is for the return of the liquor traffic was one of the high points in the convention. Doctor C. W. Saleeby, one of the greatest eugenists of England, discussed alcohol as a racial poison, showed its close relation to many of the present deplorable conditions in Europe and warned America against a return of the licensed liquor traffic and its menace as a destroyer of nations.

I have been attending religious, temperance and other reform conventions for about twenty-five years but I think I can say without exaggeration that the convention of the World League Against Alcoholism at Toronto was the most significant and epoch-making meeting I have ever attended. It will take some time for one thoroughly to digest and comprehend the full meaning of that gathering. The fact that sixty-four countries besides the United States and Canada were represented is one of the most significant facts in history. Some one declared the convention to be the "emancipation proclamation for the world." Another, a labor union man, said that if there could be such a gathering of the nations for world peace it would be possible, and still another held that if the world liquor traffic could be destroyed world adjustment and world peace would soon be assured.

One thousand one hundred and eleven delegates were registered, but I am sure that not all present handed in their

names. The average attendance at the central meetings in Massey Hall was about 2500. There was not a dull moment from start to finish, and it was not all enthusiasm. Determination to settle finally and speedily with John Barleycorn was written into every face, every speech and every resolution.

That Toronto convention has taken up the gauntlet thrown down by the International Liquor Organization recently effected at Brussels, and with headquarters in Paris, with full knowledge of the strength of the traffic in such wine-producing countries as France and Spain and their power of economic pressure upon smaller countries to overcome prohibition, as in the cases of Spain and Iceland and France and Norway, as well as recognition of the combined whiskey and beer interests of Scotland and England.

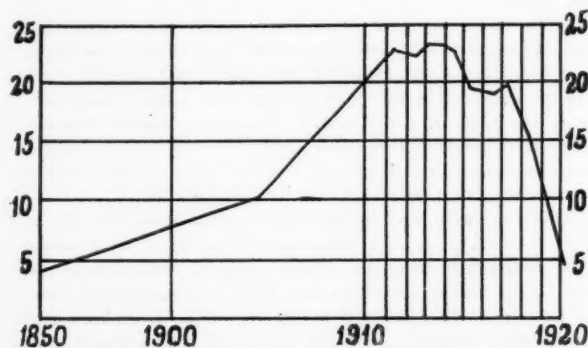
The fight will be a fight to the finish, but I repeat that when the representatives of sixty-six nations get together and pledge themselves to the overthrow of the world beverage liquor traffic, and with eternal right and every constructive argument as related to religion, economics, science and politics on their side, there can be only one result, and the wise man needs not to be told what that result will be.

Decreased Liquor Consumption Graphically Shown.

The average consumption of alcoholic liquors in the United States rose in the decade 1911-1921, to the highest level in American history, 22.68 gallons per person in 1913, and then descended to the lowest 3.01 in 1920, a little below what it was in 1800-1850. The accompanying diagram shows the

*Gallons of Liquor Consumed Per Capita in the United States
1850-1920.*

(Prepared from Encyclopedia Britannica's Diagram.)



effect of prohibition in reducing the consumption of alcoholic liquors in America. The social and economic effects of this drastic reform are told by Dr. S. M. Lindsey, President of the New York Academy of Political Science, in his article on Prohibition in the three new volumes of the Encyclopædia Britannica.

\$16,000,000 Expansion Program of Southern Power Company to Be Completed in 1923.

[Telegram to Manufacturers Record.]

Charlotte, N. C., December 11.

The Southern Power Company has just made public the details of its construction program to be completed during the coming year which involves an investment of approximately \$16,000,000. The big expansion program which started many months ago includes the building of two new hydro-electric power plants, additions to two steam-electric plants, which will add 200,000 horse power to the company's generating capacity, the construction of 200 miles of transmission lines and erection of necessary transformer and switching stations and auxiliary improvements. In its entirety it is declared to be the largest and costliest development ever undertaken by any power corporation in the South.

And despite the big increase in the generating capacity of

the company it undoubtedly will be forced to map out a construction program of big proportions for the year following, as the entire output of the new plants has been placed under contract in advance of actual completion. That means a sufficient number of new and established industrial plants to absorb the power available upon completion of the improvements. Indicative of the tremendous industrial development under way in North Carolina the company has received applications for several thousand additional horse power since the sale of power from the new plants ceased. The future plans for development by the Southern Power Company may be included in the general statement that it is not the intention of the company to allow any available water in the Catawba River to waste. It is well known that the company holds options on other sites along the Catawba, and perhaps a dam near Hickory will be included in the next improvements undertaken.

In March the Dearborn plant of the company at Great Falls, S. C., where 60,000 horse power will be developed, will be placed in operation. The Mountain Island plant in Gaston County, N. C., to develop 80,000 horse power, will be in operation by August. Work on both of these plants was started more than a year ago, and has been vigorously pushed to meet the ever increasing demand for power in the Carolinas. Additions in the form of auxiliary steam plants are being made at a cost of \$2,000,000 and provide for development of 60,000 horse power, so that the total additional output available upon completion of the four separate units now under way will be 200,000 horse power. The steam plants will probably be ready for operation in September, 1923. At Mount Holly a total of 40,000 horse power will be generated in the steam plant, while a similar plant at Eno, University Station, will produce 20,000 horse power. These will take care of any deficiency in hydro-electric power that may result during the period of low water in the streams, thus assuring the maximum of power throughout the year.

During the early summer additional transmission lines totaling 200 miles in length, and involving the expenditure of \$2,000,000 will be completed. The longest and most important of these new lines is from Lookout Shoals west of Statesville to Winston-Salem, Greensboro and High Point, a distance of 75 miles. Three lines will radiate from the new power station at Mountain Island, extending respectively to Salisbury, Gastonia and Mount Holly. Other lines will be completed between Hickory and Rhodhiss, and between Shelby and Caroleen. A line 50 miles long is being built between Great Falls and Newberry, S. C.

The additional transmission lines will give the Southern Power Company a distributing system totaling 2400 miles, making it one of the most extensive systems of its kind in the world.

"The construction program being put through at the present time is the largest ever undertaken in the history of the Southern Power Company or any other power company in the Southern States," according to a recent announcement, which continues, "The demand for power by the rapidly growing industries of the Carolinas is such however that the company already has sold all of the power it dares to sell against the two new hydro-electric developments."

Germans Copying American Hardware.

About 2000 tons of hardware are used annually in the Island of Sicily. Germany is making a serious effort to capture the Sicilian trade, according to a report to the Department of Commerce, and their articles, on account of the high opinion in which American hardware is held, it is said, are now being made along American lines. In such commodities as locks, hinges, and bolts, they are considered by the local trade to be excellent imitations.

Administration and Finance Among Important Problems in Good Roads Construction.

TRANSPORTATION DIFFICULTIES AND FEDERAL AID FIGURE PROMINENTLY IN DISCUSSIONS AT HIGHWAY CONVENTION.

[Special Correspondence Manufacturers Record.]

Kansas City, Mo., December 8.

The discussions in the open sessions of the eighth annual convention of the American Association of State Highway Officials held in this city from December 4 to 7, inclusive, were much less technical than the outsider might suppose.

Though such things as stress, mixing formulas and curves of efficiency had their place on the program they were overshadowed in most of the papers read by problems of administration, finance, traffic control, federal aid and the like.

The reason for this, of course, was the fact that road building is essentially a public enterprise in which the solution of engineering puzzles is simple compared with the difficulties of coping with legislatures and public opinion.

There is no intention of implying here that the delegates to the convention forgot they were engineers and spent their time talking politics. It is wished merely to bring out that even yet in the majority of our states the big task before road enthusiasts is not the physical one of building the highways but the psychological one of convincing the people that satisfactory transportation can be obtained only by sound, adequate taxation and the complete divorce of the highway department from politics.

A. R. Hirst, state highway engineer of Wisconsin, went so far as to say in his paper on "Troublesome Problems Encountered in the Administration of a State Highway Department:"

"Essentially, the business of building the American Highway System is not a problem of engineering but a problem of handling people in detail and in mass. Humanness is the big factor, the ability to impress one's own viewpoint while not insulting the man who holds another. No matter how profound our learning, how inclusive our experience or how well founded our judgment, results cannot follow if we can not put our ideas and ideals across and get the support of the legislatures and the people of the unit of government that employs us. Universities can produce scientists, but God only can produce men of natural adaptability and brains."

T. H. MacDonald, chief of the National Bureau of Public Roads, said in an interview that he believed finance deserved the greatest consideration from highway engineers at this time. He thinks vehicle owners should pay a larger part of both the construction and maintenance costs than they are paying at this time.

This national official suggested that the most effective way of educating the public to the value of good roads is to build the greatest possible mileage of pavement at once, even at the sacrifice of durability. Once a majority of the people have enjoyed the advantages of hard surface highways, they will be eager to vote the funds necessary for more permanent improvements.

Theodore Gary, chairman of the Missouri State Highway Commission, agreed with Mr. MacDonald. Mr. Gary is not an engineer but he has made a study of road building over a period of many years and he worked untiringly for the \$60,000,000 road fund which his state voted last year.

In a speech before the convention, Mr. Gary accused the highway engineers of the country of instilling the public mind with an impracticable ideal of road building. He believes that for the time being the goal should be to cover the developed parts of the states with better roads and then make them into ideal roads when more time and money are

available. His plan is to lay out locations, make grades and install drains with full consideration for the development of future traffic and then to lay that kind of pavement commensurate with the funds that can reasonably be expected.

"At the very beginning of this tremendous task of building a huge highway system, how can we expect to jump from virtually unusable roads to the best kind of pavement there is?" Mr. Gary asked. "No state in the union is able to finance such a program immediately. The young man who started out in business on such a plan would soon be bankrupt."

"Yet the public has been brought to the point of expecting roads wide and level enough for a three-track railroad, ornamental bridges and culverts with beautiful hand rails and elaborate ends. It is over-impatient highway engineers who have instilled this impractical ideal and it is the duty of you engineers to correct it."

The gasoline tax was favored by virtually all the engineers individually and was endorsed by the Association as a whole. A resolution was passed favoring the adoption of such an impost to the extent of at least two cents on the gallon.

The same resolution recommended a fairer adjustment of the taxation for roads as between owners of real property and road users. It stated that the theory that motorists ought to pay for maintenance only was wrong, that they ought to bear at least one-third of the cost of both construction and maintenance.

One whole session was given over to discussion of Federal Aid. W. C. Markham, the Association's legislative representative in Washington, reported that Congress had outlined a three-year road program which began last June and provided \$50,000,000 in Federal Aid for this year, \$65,000,000 for next year and \$75,000,000 for the year after. The appropriation for this year has already been authorized by Congress. The Association passed a resolution urging that the money be actually appropriated.

T. H. MacDonald, who has complete charge of all Federal Aid, read a paper entitled, "The Functioning of Federal Aid in the Development of Highway Transportation."

He quoted statements from railroad officials showing that the railroads would not be able to transport freight quickly enough when business revived. Then he went on to show that at present rates the railroads can make a profit on the long, but not on the short, haul. From this the speaker drew the conclusion that motor transportation would be a benefit instead of an injury to the railroads since it is the short haul freight that the automobile takes over.

Mr. MacDonald said that in handling Federal Aid his department had no desire to be dictatorial but merely aimed to express the average standards of the states. He said the states were divided into groups and it would be unfair to the progressive states in any one group not to insist that the others live up to a reasonably high standard. He added that some states were jeopardizing their opportunities for Federal Aid by the poor way in which they were maintaining their roads on which Federal Aid funds had been spent.

Incidentally, he remarked that the Bureau of Public Roads remained firm in its belief that no grade crossing is safe and that the engineer who builds highways across railroad tracks is carrying out his road program at the expense of human life.

Rollen J. Windrow, consulting engineer of both the Missouri and Texas state highway departments, in his paper on "The Business of Handling Federal Aid from the State Viewpoint" voiced complaint against certain phases of the organi-

zation of the Bureau of Public Roads. To put it briefly, he believed there was too much "red tape" though he did not use that expression. Specifically, Mr. Windrow thought too much time is required to obtain the Bureau's approval for road projects. Plans must first have the approval of the Bureau's district engineer who then forwards them to Washington to be inspected by the main office. Mr. Windrow said his experience showed that this process quite often delayed work on a project for as long as 75 days.

The Missouri engineer offered a remedy for the situation. He suggested that the Washington office be merely a clearing house for the general policies of the Bureau, that the district engineer be made an inspector and consulting engineer instead of an executive and that the Bureau's engineer in each state have the power of saying "yes" or "no" for Washington. He believes that if this state engineer makes a mistake he should be reprimanded but not overruled by the Washington office.

In the discussion which followed, Frank T. Sheets, superintendent of highways in the Illinois Department of Public Works, said he had never experienced delays such as had been complained of by the preceding speaker while W. R. Neel, Georgia state highway engineer, said the delays were doubly exasperating in his state where every change recommended by either the district engineer or the Washington office had to be taken up with the county commissioners who have charge of all the funds voted by each county.

The system of building roads with county funds was outspokenly condemned by those state engineers who work under it.

J. D. Fauntleroy, Texas state highway engineer, said the system is wrong in principle and makes it impossible to carry out a big program of road building. Some of the counties are unable and others are unwilling to vote the necessary bonds.

When it came to maintenance, however, many of the delegates favored having the county do the work under the supervision of state officials. This system was defended at length by G. C. Dillman, deputy commissioner of the Michigan state highway department, who read a paper on "The Field Control of State Highway Maintenance." Everybody agreed that in the long run a highway department will stand or fall by its achievements in maintenance.

No official stand was taken on motor truck regulation though opinions were fairly unanimous and the committee appointed to investigate the question held some lively meetings. Chairman MacDonald reported on the last day that the committee wished to continue its work until the next convention. Clifford Older, Chief Highway Engineer of Illinois, in a paper giving his conclusions on design based on the service tests on the Bates, Ill., test road said regarding truck regulation:

"The carrying capacity and therefore the useful life of a rigid pavement being dependent on the magnitude of the wheel loads that cause breaking stresses, we cannot hope to construct pavements that may be maintained economically or that may not be utterly destroyed in a few months or years unless the wheel loads are rigidly controlled.

"It is not reasonable to expect local authorities to enforce load requirements. It must be done by a state police force and any state that does not provide for truck load control faces the early destruction of its paved roads unless truck manufacturers and owners have a radical change of heart."

Mr. A. R. Hirst's paper contained a bitter complaint over the delays in highway construction due to the inability of the railroads to make prompt shipment of materials.

Some of the committees made concrete recommendations. All of the reports were turned over to the committee on standards, of which Mr. Clifford Older is chairman, and will not be acted on until next year and hence were not made

public. As is customary, these committees continue to exist and function throughout the year.

Over 250 delegates attended the convention, all but two of the states being represented. Reporters from the local papers were admitted to the sessions, thus giving the convention an unprecedented amount of publicity. Representatives of material firms were not permitted to sit in, however.

C. J. Bennett, state highway commissioner of Connecticut and vice president of the Association, was unanimously chosen to succeed C. M. Babcock as president. Fred R. White, chief highway engineer of Iowa, succeeds Mr. Bennett to the vice presidency. Treasurer Frank T. Sheets of Illinois and Secretary Charles M. Upham of North Carolina were re-elected. G. P. Coleman of Virginia heads the executive committee again.

The time and place of next year's convention will be decided later by the executive committee. St. Louis, New Orleans and San Francisco are under consideration.

The proceedings of the convention will be published at an early date.

Agricultural Engineers to Meet—Other Conventions.

Agricultural engineers from all over the country and particularly from the South will attend the sixteenth annual meeting of the American Society of Agricultural Engineers to be held in St. Louis, December 27 to 29. The Implement, Vehicle and Hardware Association of St. Louis is co-operating.

The American Institute of Electrical Engineers has arranged for general meetings as follows. Midwinter convention, New York, February 14-16; spring convention, Pittsburgh, in April; and annual convention, Swampscott, Mass., June 25-29.

The annual meeting of the American Institute of Mining and Metallurgical Engineers will be held in New York, February 19 to 21. The spring convention of the Society of Industrial Engineers will be held in Cincinnati, April 18, 19, and 20, the major subject being "Management Problems of the Smaller Plants."

Ask for Permit for 75,000 Horsepower Development.

Knoxville, Tenn.—The Holston River Power Co., a New York concern, has applied to the Federal Power Commission for preliminary permit to begin surveys for a contemplated development of 75,000 horse power close to Knoxville and to other cities and towns of upper east Tennessee. Three dams are mentioned in the application—one to be located near Kingsport, another on the south fork of the Holston near Bluff City, and the third near the junction of the south fork and the Watauga River. These sites have been previously surveyed by Government engineers. The construction program would require not less than two years for completion. The officers of the new company are said to include: J. R. Paul, 52 Wall Street, New York, president; J. B. Cox, vice-president; George Paul, treasurer; and J. P. Fife, secretary.

Summer Cruise to Bible Lands.

Thomas Cook & Son will have a second summer cruise to Bible lands in 1923. Everything in connection with the cruise, the season of the year, the price, the itinerary, has been arranged with special reference to ministers, teachers, and other professional and business persons who can get away only in the summer.

Pastors and others interested in such a cruise at reduced rates, or the conditions under which one may go at half price, or even have a free trip through the terms which Thomas Cook & Son are offering can secure full information from Dr. John H. Eager, of Baltimore.

CONTINUED ACTIVITY PREDICTED FOR CONSTRUCTION AND LUMBER INDUSTRY.

Charles S. Keith, Leading Lumber Manufacturer of Kansas City, Mo., Analyzes Situation and Makes Forecast.

Washington, Dec. 11—As a contribution to the general discussion of whether the present revival of prosperity and employment is merely a spurt of "secondary inflation" soon to be followed by a long period of business lethargy and unemployment, or the beginning of a true period of business activity, the National Lumber Manufacturers Association today made public a digest of a statement made on request by Charles S. Keith, of Kansas City, one of the largest lumber operators and business men of the South and Pacific Coast, and a recognized authority on industrial economic conditions. Mr. Keith is confident that construction on a large scale will continue for a number of years and that the lumber industry will continue at the present level of activity for the next five years, with the implication that the whole country and all commerce and industry will be very active, with an abundance of employment.

"I think that perhaps apartment building construction has reached its limit for the time being", says Mr. Keith, "but there is a demand for buildings which may not represent as many dollars as the apartments, but will involve a large demand for lumber, and call for steadily employed construction labor. I refer to the nation-wide tendency back to the small house on the part of flat-dwellers. For a time there will not be much factory building, as the country was over-built in this respect during the war. If there should be a decline in building in the cities, I am satisfied that so far as lumber is concerned the industrial consumption and the demand from agricultural districts will more than absorb any reduction in housing construction. Incidentally, I notice that 139,000 railway freight cars have been contracted for this year, which is, I think, the largest number since 1907. Speaking broadly my opinion is that the building situation has not been scratched. Even if my conclusion in this respect is in error the changing conditions of the lumber industry are such that it will be taxed to the utmost on the whole to meet the demands that will be placed upon it. I refer to the declining lumber mill capacity and production of the South, owing to the progressive depletion of the timber supply of that section. The decline of production there from now on will doubtless proceed faster for some time than the expansion of capacity and production in the west.

"A canvass of the Southern pine producing territory was made by the Southern Pine Association in 1919, covering 5401 mills with an annual capacity of 16 billion feet. The apparent rate of depletion of timber revealed by this canvass, if realized in actual practice during the last four years, means that the annual lumber production capacity has been reduced approximately 6,250,000,000 feet in the South. Furthermore, the outlook, as shown by that survey, is that the lumber production of the South will decline 4,850,000,000 feet more in the next five years. Already the effect of the construction of the southern lumber supply is reflected in the full operating time of the West Coast mills this year, together with a reduction of their stocks to the lowest point in seventeen years.

"On the other hand there has been but little increase in the productive capacity of the Pacific Coast since before the war. Its future increase will necessarily be slow compared with the inevitable decline of production in the South and nothing like as rapid as the expansion of production in the South in the latter nineties as the northern and eastern lumber supplies fell off.

"The costs of opening up timber stands on the West

Coast are enormously greater than in the South and the climatic conditions, distance from markets, etc., are such that whereas an investment of \$9.90 per thousand feet of production, on the basis of twenty-five years of operations, sufficed at the time of the depletion of the timber of the North and the early rapid development of the industry in the South, it takes over \$100 per thousand feet of annual production capacity to capitalize a typical lumbering enterprise on the Pacific Coast. This capital will be gathered slowly, and probably only after a number of years of profitable business without extensive enlargements.

"Again, it is to be remarked that at the same time the South's lumber production is decreasing its home consumption of lumber is increasing, due to agricultural and manufacturing growth. In five years, if the depletion of the timber supply proceeds as is inferable from the analysis mentioned above, it is not at all improbable that the great bulk of the softwood lumber produced in the South will be consumed in the territory south of the Ohio, Missouri and Potomac rivers, making practically all of the territory north of those rivers and east of the Rocky Mountains dependent for its lumber requirements on the West Coast mills."

Charlotte Building Breaks Previous Records.

Charlotte, N. C.—With building permits issued in this city during November for nearly \$425,000 of new construction work the year's total has exceeded \$5,000,000 as compared with the record breaking figure of \$2,353,808 for the preceding year and \$2,303,500 for 1920. The value of building permits for November is surpassed by only three other months in 1922 and there were no big buildings included in last month's total. Residential work was the outstanding feature, 96 new houses having been included which is almost twice the number for any other month this year. Five apartment houses were also started.

Charlotte has experienced the most remarkable building activity in its history. New work for the first eleven months of 1922 is more than double the total of any preceding year.

Water Problems in Oklahoma Oil Fields.

An underground map of the formations in the Tonkawa oil field of northern Oklahoma, which is in an active stage of development, has been completed by engineers of the Bureau of Mines. This map, thinks the Bureau, should be of assistance to oil operators in that field in determining the depth at which water, gas, and oil may be expected. In the Drumright, Henryetta, and Deaner fields in Oklahoma, a number of wells in which water had appeared had been successfully repaired under direction of Bureau of Mines engineers, and the water excluded. For example, in the Deaner field, one large gas well, which was flowing much water with the gas, after being repaired produced 13,000,000 cubic feet of gas daily, and no water.

Progress of Skimming Plant Studies.

In the course of a study of skimming plant operations being conducted by M. P. Youker, refinery engineer of the Bureau of Mines, a steam still tower has been erected at the Bartlesville, Okla. station for experimental purposes. This tower will be used for an investigation of the possibilities of a continuous steam still process. Several complete test runs on steam stills have recently been made by Mr. Youker, says the Bureau. From the data obtained the amounts of steam necessary to put overhead distillates of various gravities will be determined.

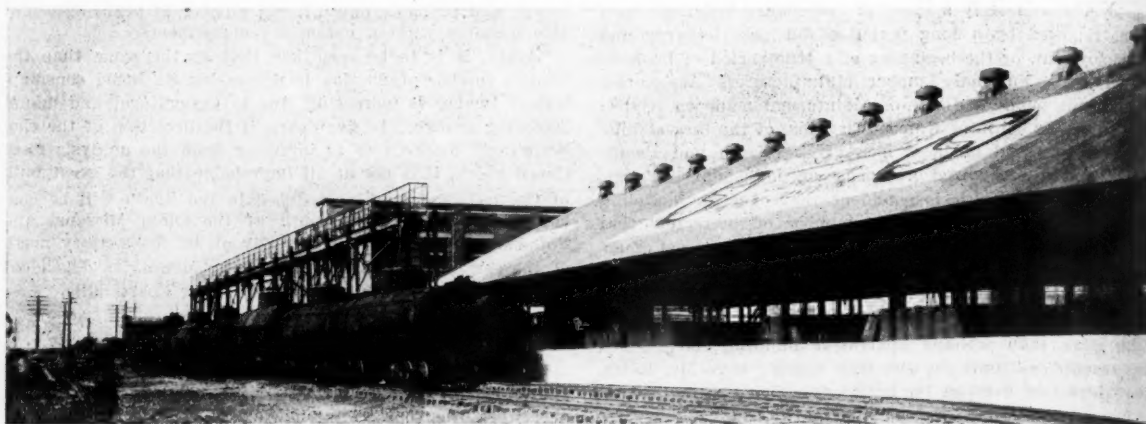
The seventh annual meeting of the National Association of Sand and Gravel Producers will be held January 24, 25, and 26, and Washington has been tentatively selected as the meeting place.

Big Refining Plant of Standard Oil Co. at Charleston, S. C.

The modern oil refinery which the Standard Oil Co. of New Jersey, is operating at Charleston, S. C., is typical of the great plants which are being established all over the South, not only by the greatest Eastern and Western corporations but by strictly Southern concerns as well. The site contains 123 acres and provides ample room for future growth.

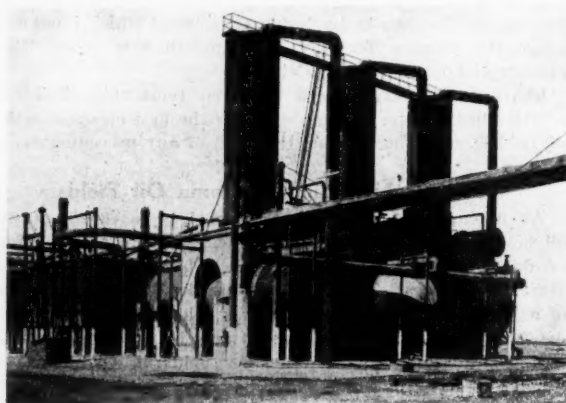
The plant was so designed as to run on Mexican crude exclusively and to produce a large amount of asphalt and road oils, which makes it an important factor in supplying the demand for road building materials in the adjacent territory.

The plant lies about two and a half miles from the business section of the city on the road connecting Charleston and



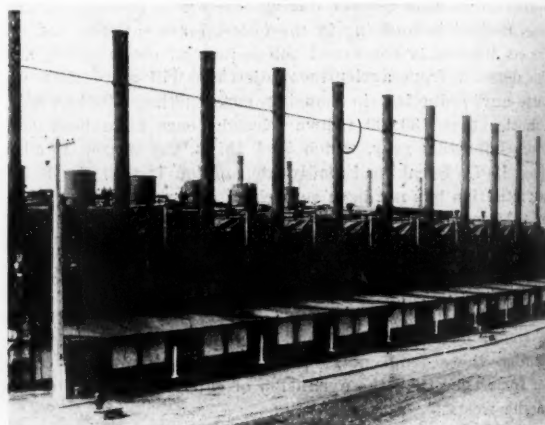
DRUM FILLING SHED AND ASPHALT LOADING RACKS.

By means of these facilities shipments may be made to suit the customer's needs—either in drums or tank cars.



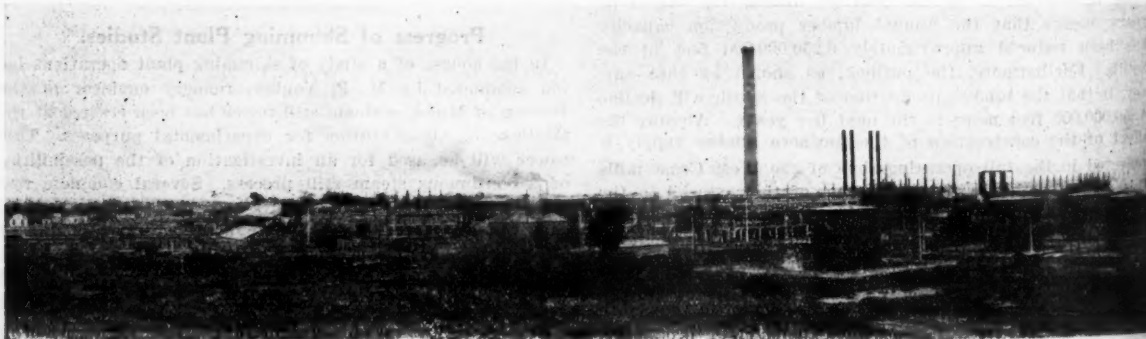
CONTINUOUS STEAM STILL.

Provided for furnishing white products, principally gasoline.



A BATTERY OF 10 RE-RUN STILL.

Part of the very modern and complete oil-treating plant.



BIG REFINERY OF STANDARD OIL CO., OF NEW JERSEY, AT CHARLESTON, S. C.

Located on a tract of 123 acres, 2½ miles from the city, the plant has been laid out as a complete unit to provide for special methods

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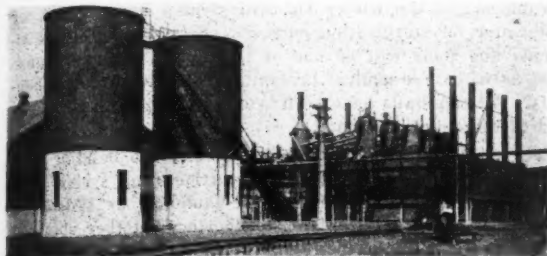
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Columbia. It has an extensive water frontage on the Cooper River, which together with the Ashley River, gives the city its natural advantage as a harbor. From the refinery dock to the jetties at the outer edge of the harbor is 11 miles, but vessels may approach within four miles of the dock



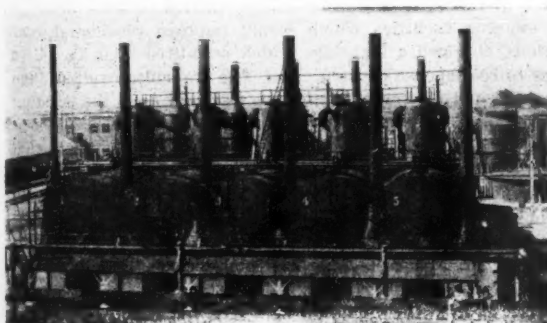
ASPHALT FILLING TANKS.

A part of the splendid equipment available for handling road building materials.

without the use of tugs. Alongside the docks the water has a depth of 30 feet.

Because of the specialized business the plant is an important one in the production of road materials, and facilities are provided for shipping asphalt in packages and in tank cars. All other shipments are by tank car or vessels.

By laying the entire plant out at one time it was possible



A BATTERY OF OIL STILLs.

This refinery has in addition, a plant for making asphalt drums and a separate filling building. Thus it is an important factor in supplying the demand from a wide area for road materials.

to provide for special methods of operation and handling and thereby obtain much more efficient arrangement and results than can be obtained in those cases where plants start small and grow as business demands. The expansion

of any department may readily be taken care of when conditions demand it.

To carry crude oil from tank steamers to the refinery, a 16 inch line extends from the shore to the dock. The marshy condition of the land made it necessary to build a trestle 4200 feet long. On this trestle are the pipe lines for handling incoming crude and outgoing products.

Transmission Line Completed—Oklahoma Power Company Now Building \$2,000,000 Plant as Part of \$10,000,000 Program.

A new high voltage transmission line has been completed by the Oklahoma General Power Co. connecting Fort Smith, Ark., with Muskogee and other Oklahoma cities. It passes through Muldrow, Salisaw, Vian, Gore and Webbers Falls.

The company is making satisfactory progress on the construction of its big plant on the Arkansas River near Muskogee. This will cost over \$2,000,000. The construction program now in sight calls for an expenditure of about \$10,000,000, according to an announcement made recently by J. F. Owens, vice-president and general manager. A new plant will be built two miles north of Harrah near the lake there. The initial installation will provide for a capacity of 15,000 kilowatts and ultimate capacity of 50,000 kilowatts. In addition to the two new plants now being built, and the construction of lines to serve new territory, a number of plants recently acquired by the company are to be rehabilitated.

A large tract of land has been secured for the Harrah plant. The capacity of the lake will be greatly increased and water impounded for condensation needs. According to tentative plans the main building will be 300 by 600 feet.

"The fact that the Byllesby interests are investing so much money in plants in Oklahoma shows that they have great faith in the state and its future," declared Mr. Owens recently, "and should pave the way for attracting other capital in aiding to develop the state. The day of the small isolated plant has passed. Small plants cannot make current cheaply enough to make a profit. Today you must have quantity production and economies in manufacture that can only be effected in larger plants."

Electric Plant Equipment to Cost \$1,000,000.

Houston, Tex.—Tentative plans have been announced for the erection of a large electric plant for the Houston Lighting & Power Co. A site has been secured on the banks of the Houston ship channel, and an unlimited supply of water for the boilers, excellent transportation facilities for fuel, and seventy acres of land will place the plant among the foremost in Texas. More than \$1,000,000 will be spent for equipment which will include a turbo-generator of 20,000 kilowatts capacity. The plant is scheduled for completion in 1924.



ADMIRABLY LOCATED FOR DISTRIBUTION OF THE VARIOUS PRODUCTS.

of operation and economy in production and handling, and with ample room for expansion of every part.

A Modern Market Scientifically Equipped and Ably Conducted Through Initiative of Progressive New Orleans Citizens.

[Special Correspondence Manufacturers Record.]

New Orleans, La., December 8.

The substantial citizens residing in the vicinity of the Prytania market have completed the erection of a model retail food supply depot, and will in a few days open the facility which is expected to be valuable as a municipal and even a national demonstration in sanitation.

The citizens made the investment as a vital service to themselves and to their neighbors, without any idea of financial return upon their money. After expending about \$30,000 the venture holds such promise of success that it is conservatively estimated they will get back all their principal inside of a few years, and that for the remainder of the twenty-five years' term of their ownership they will collect substantial dividends. Here are some of the advantages they will gain:

An ornamental fireproof and flyproof structure which will guarantee them an efficient food supply.

A scientifically equipped market in which their food will be kept pure and wholesome.

A market which will be maintained scrupulously clean and which will never become a detriment to the health or appearance of the neighborhood.

A selected and controlled group of merchants whose tenure will depend upon the quality of their service and the consideration and courtesy which they extend to their patrons.

The market fronts on Prytania street within the triangular area formed by that thoroughfare and Upperline and Perrier streets. It measures 175 feet in length by a width of about 50 feet. The structure is of steel, cement, brick and glass. The profusion with which the latter is used and the very high ceiling provide an unusual amount of light and ventilation. The latter is helped by exhaust fans, which also contribute to the purity of the air.

The screening is especially thorough, and is so arranged as to cover the roof ventilators as well as the numerous side openings. There are plenty of doors and these are divided so as to swing only in one direction, affording distinct exits and entrances through the same passages. The cement floors are of the turtleback order, automatically and easily flushed. There are public comforts for the sexes and races and public drinking fountains from which cold water automatically flows.

The market makes provisions for ten meat, four vegetable, one fish, and one bread and cake stall. There are fourteen dry cold storage boxes which lock very tightly, but with the locks operating so smoothly as to yield to a child's touch. The storages automatically retain a uniform temperature of 34 degrees, afforded by connection with a power current, and electric fans. All entrances are vestibuled with screens and fans to exclude and banish flies and other contamination. The meat counters have sectional maple tops, and plate glass protector fronts prevent the meat displayed from being touched or handled by the inspecting public. The fish room is entirely independent and apart from the remainder of the market, with especially large refrigerators, and with an immense exhaust fan to aid in removing odors and keep them from going elsewhere. There is also a separate refrigerator for poultry.

The pipes and wire conveyors throughout the structure are painted white, like the walls and ceilings, and harmonize with the attractive fixtures.

A compact little machinery room is the source of power. An electric motor furnishes the current for the lighting, ventilation fans and other facilities. An ammonia compressor automatically conducts the refrigerating system. There is also an automatic gas water heater, which not only will warm

the market in the winter but will yield a constant flow of hot water for sterilization purposes. Sterilization of instruments and tools will be one of the strictly enforced rules, just as will those against profanity, discourtesy, and dishonesty. All the stalls have been rented and there is a waiting list of those desiring space.

The architect was Sam Stone, Jr., and the building contractor, Gervais L. Favrot. The refrigerating system was installed by H. T. Steffee, and the plumbing by Wilton M. Ellin. Both of the latter are stockholders but they obtained their contracts in competition, probably making their bids the lowest so as to contribute to the civic triumph. Edgar E. Smith will be the manager of the market, being on hand daily during the hours of trade, to see that the regulations are fully observed and that the public and the public interests are protected in every way. There also will be a porter whose duty it will be to keep the place spotless and the sanitary record clean.

The market is a monument to Charles F. Buck, Joseph A. Walker and the pioneers who were responsible for its creation. That was in 1890, when the section was somewhat dilapidated, and when the car barn and saloon opposite were the principal structures in a considerable area. Messrs. Buck and Walker and other public-spirited citizens, desirous of erecting facilities which would improve residential conditions, obtained a franchise which permitted them to collect fees to recompense construction. The franchise expired June 30, 1920, and for several years prior to that limit the building was allowed to run down, notwithstanding it then served a popular residential zone of the city. The administration pleaded lack of available means, and the crumbling landmark degenerated into a nuisance. Charles F. Buck, Jr., in tribute to his father's memory, planned to restore the place to its former glory. He obtained a franchise from the city government, and then organized and incorporated interested property holders and citizens into a company to construct and operate a new Prytania Market. He was elected president of the corporation, with A. H. Kussmann, secretary-treasurer. The building committee mainly responsible for the model structure was made up of Wilton M. Ellin, Chairman, Ernest E. Sykes and W. G. Napp.

The contract with the city provides for the amortization of the cost, and the commission council will be asked to appoint auditors to appraise the cost as basis for the working out of the idea. Twenty-five per cent of the gross revenue will be set aside each year for amortization. From the balance will be deducted the operating expenses, subject to the inspection of the city. Out of the net profit thus arrived at the city will receive ten per cent as rent, and the remainder will be distributable among the stockholders as dividends. After the amortization is eliminated the operating expenses will be deducted from the gross income and the city will be entitled to ten per cent of the net income, the remainder of which will go to the stockholders. At the end of twenty-five years the market will revert to the city and become city property.

16-Story Cotton Exchange Building Planned.

Houston, Tex.—The Houston Cotton Exchange is considering the erection of a sixteen story building, preliminary plans for which have been prepared by Sanguinet, Staats & Gottlieb, local architects. Several months ago a site was acquired at a cost of \$100,000. J. W. Sanders is chairman of the building committee.

NEWS AND VIEWS FROM OUR READERS

[Publication in this department of letters from our readers does not mean that we either approve or disapprove the views expressed. We believe in a full and frank discussion of the mighty questions of the hour, for only in this way can the truth be found. Therefore we often publish letters with which we do not agree.—Editor Manufacturers Record.]

Feeding Hogs in America or in England.

HENRY KNIGHT AND SONS, Live Stock Purchasing Agents,
Louisville, Ky.

In your November 30 issue of the MANUFACTURERS RECORD there appears an article entitled "A Suggestion to Hog Raisers," which was an answer to a letter you received from your friend Mr. Moreton Frewen, of England.

Now, we must take issue with your friend. The writer is thoroughly familiar with the method of feeding hogs in this country, together with the results obtained and we do not believe there is a country on which the sun shines that can get better results than the good old U. S. A. in the line of hog feeding right out among our Western feeders, who are the leaders in this line.

You state Mr. Frewen, a good many years ago experimented on a ranch at Casper, Wyo. I grant you until the discovery of the self-feeder and the feeding of animal tankage in conjunction with corn, that possibly our feeders were rather crude, but no doubt all of this has occurred since Mr. Frewen left this country. The strides made by the hog feeders in this country have been remarkable. They have reduced the cost of production practically one-half, simply by scientific feeding and their principal aid has been the use of self-feeders and the addition of tankage and other high protein supplements.

I am afraid your good friend, Mr. Frewen reminds me a lot of my grandfather who came from the British Isles in '48. I was raised with him and everything done in this country was not as good as where he came from, until it was a standing joke that nothing could be done right except by Johnny Bull.

Now, we would like for your friend to submit his figures as to what they are able to do in England, and let us compare his figures with the results on record with the various state experimental stations together with the Bureau of Animal Industry at Washington. I know I am safe in saying that the results they obtain with corn the major feed, will not out-do the results obtained in this country.

[Mr. Knight may be correct as to the improvement in hog feeding and we are glad to have his views on the subject, but he is wrong in his thought in regard to Mr. Frewen who is an enthusiast on this country and was the intimate friend and advisor of such men as Jas. J. Hill, E. H. Harriman and other American upbuilders. He is now an invalid suffering internally, night and day, but his personal letters are always full of cheer.—Editor MANUFACTURERS RECORD.]

A Farmer's View of the Financial Situation of Farmers.

B. F. KETH, Proprietor, Keith Farm, Caledonia, Currie, N. C.

I am enclosing you an open letter I am trying to circulate among the farmers and producers, as well as to business men, as all classes are interested in the rise or fall of our agricultural interests. I will greatly appreciate it if you will publish same in your valuable paper, and lend your influence to help free us from the iniquitous money trust, gamblers, etc., that are using the present Aldrich and Wilson banking scheme, known as the Federal Reserve Act, to destroy agriculture, making white slaves out of the pillars of civilization by their scheme of lending bank credits, discounting the borrowers' mortgages and notes, drawing interest on them many times, charging each borrower 6 to 8 per

cent and often more; they, the bankers, drawing more interest out of the producers of wealth than can be produced by honest labor.

We, the producers, will never be free until the Government lends direct to the farmers, divorced from the present banking trust at a reasonable rate of interest. When this is done the farmer can make his own price, and soon be free from the international banking trust that has circled the world, and is bringing destruction upon it on the pretext of holding to the gold standard for money. When there is not enough in the world to pay 2 per cent on all debts calling for gold payments, is it any wonder that we are fast drifting into decadence when led by the hand of less than one per cent. The gold worshippers who have most of the gold in the world, which is made to measure the value of everything else, including our Congress—and state legislation (or many of the members in each), seem not to know or care for the ones who support all?

There is to be a conference in Washington on December 14, 15 and 16 of those who are interested in seeing the producers have equal rights with any other class of business, and I trust you will be there and help save all classes by saving the farmer, as there is no denying this fact. Notwithstanding what the propagandist may say, the farmer is going backwards.

I trust you will pardon my writing you, but it must be by honest, courageous men like yourself who are in a position to speak through your paper, if we are to be saved from ruin.

"Rotten White Men and Politicians" This Writer Says are Responsible for False Teaching of Negroes But We are Not as Hopeless of Them by Any Means as He Is.

W. H. SHINDLER & SON, Hempstead, Tex.

Texas has plenty of room for negroes that want to work. We have plenty of them in this country but they have the higher culture and are ruined for labor, and are not fit for citizens. The war and education has ruined them. I wish Washington had them all. They are ten times worse than they were after the Civil War. They do not want work. If one was to ask me for work it would make me suspicious. I would think something was wrong with him.

They are the most ungrateful people in the world, and I think the rotten white men and politicians are largely to blame for it.

When you find a class of people that are destitute of gratitude, honor or virtue, to make anything out of them it will take a great man like our President.

I am about 69 years old, have been among them all my life and as far as I can see they are getting worse every day. I would not undertake to make a crop depending on their labor as I would certainly go broke.

The greatest ambition of their lives is to live in perfect idleness—absolute starvation is the only thing that will make them work. They want social equality, which they never will have in the South. They hate the white man on that account. They will have to go to their Northern friends to get that. We can't stand the order. It is almost impossible to get one of either sex to labor, they prefer living in shacks and live on bread and water.

THE IRON AND STEEL SITUATION

Interesting Market Developments in Past Week.

Pittsburgh, Pa., December 9.—[Special.]—The past week has brought the most interesting developments in the iron and steel markets for a long time. There was the announcement by the Carnegie Steel Company of its first quarter price on sheet bars, a decline in coke curtailment in coke production, the inception of pig iron buying for first quarter delivery and announcements as to pig iron and steel ingot production in November.

The sheet bar price announced by the Carnegie Steel Company for first quarter is \$36.50, or somewhat higher than the trade at large expected. The price is on sheet bars furnished the American Sheet & Tin Plate Company, brother subsidiary in the Steel Corporation, there having been no "intercompany" sheet bar price for several years, also on sheet bars furnished certain independent mills on long standing arrangements, whereby the Carnegie company undertakes to furnish the tonnage required, at such price as it sets quarter by quarter, the buyer having the privilege of refusing all or part of the offer, in advance, if the price set is not satisfactory. The company does not sell sheet bars in the open market. The independents ordinarily adhere to the price named, except when they can secure more. Setting the price at \$36.50 leaves a narrow margin for the finishing mills and adds to the prospect that the prices of \$4.75 on tin plate and 3.35c. on sheets will be adhered to. The price for the first quarter of this year was \$29, the lowest market level since 1915.

Connellsville coke had been expected to advance this month, as a result of cold snaps and snow storms slowing down railroad operations, but the weather did not co-operate and as production has increased more than consumption the market is off. The Connellsville Courier reports production last week at 193,770 tons, a decrease of 7330 tons, the first decrease since that started by the strike in April, but this decrease was entirely with the furnace ovens. This week the merchant ovens will show a decrease. The spot furnace coke market is off 50 cents, at \$6.50 to \$7.00, while shipment to January 1 is off about \$1, to \$6.75 to \$7.00.

The decline in pig iron prices that began about the middle of September continued in the past week, with a greater drop than in previous weeks, the market at last finding a point at which buyers felt disposed to take hold, their purchases previously having been only in small lots for immediate shipment. Against the small lot market in foundry iron of \$27, valley, a week ago, sales aggregating about 10,000 tons have been made for first quarter at \$25, valley, this week. An interesting point is that more than half the tonnage went to sanitary ware interests, which are doing an extremely heavy business with prospects for indefinite continuance. Basic has declined from \$26 to \$25, valley, with a little buying, and with consumers showing a disposition to take hold if they get a little further concession. Bessemer is off from \$28.50 to \$28, valley.

Thus the pig iron market now has two sides, having had only one for two or three months. Furnaces that sell now say they merely want some backlog business and expect to sell more at higher prices, while consumers who buy say they expect to cover the remainder of their requirements at lower prices, but wish to pick up some iron now to be on the safe side, as at the most the market cannot go much lower.

Pig iron production in November was at the rate of about 34,900,000 tons a year, showing an increase of 11 per cent over the October rate, the steel works furnaces gaining 9 per cent and the merchant furnaces 20 per cent. Steel ingot production was unchanged, the rate being about 40,000,000 tons a year, the same as in October. The attendant

increase in pig iron production suggests that steel works are piling some iron, while it is known that some of the merchant furnaces are piling iron.

In general, buying of finished steel products has been light, production of steel on old orders keeps up remarkably well. Buyers frequently instruct mills to curtail shipments at this time, on account of inventory. This they are not doing, and a factor probably is fear of another coal strike April 1, which the mills would not be as well fortified against, with coal stocks, as they were last time.

Pig Iron Bookings for 1923 Assume Importance.

Birmingham, Ala., December 11.—[Special.]—Alabama pig iron will find a ready sale for delivery during the coming year. Inquiries have been numerous lately and sales have been consummated, the aggregate business booked now beginning to show some proportions.

The surplus stock on yards in this state is being reduced materially. Railroads are furnishing more cars and the transportation problem is beginning to clear up, a consequence being a reduction of more than 26,000 tons of iron during the month of November. Of the 76,645 tons of all kinds of iron on yards in this state on December 1, but 65,939 tons are foundry and machine cast and all of it cannot be claimed available for the open market. The 9956 tons of basic iron and 750 tons of iron on warrant yards is not to be considered at all. The buying movement now on will be against the probable make the coming year and preparations are well in hand to keep all furnaces now producing going. If need be a few can be blown out and others will be ready to take their places.

Production is around 210,000 tons per month, though considerable of this is basic iron, of which class there is a strong need, with the Tennessee Coal, Iron & Railroad Company and the Gulf States Steel Company operating steel mills steadily with no prospect of an early abatement. Quotations are showing a little firmness since the withdrawal from the open market of smaller furnace interests, which had been selling right along at \$22.50 to \$23 per ton, No. 2 foundry. The lowest price now is over \$23. Some of the larger and more active furnace companies have been maintaining the \$25 level, No. 2 foundry iron, and sales have been made for delivery next year.

A number of the larger consumers of iron are said to have made purchases of large tonnages for first quarter of the coming year, the cast iron pipe makers, the radiator producers and others to start the new year with considerable tonnage sold and therefore to be in need of a large quantity of pig iron. The United States Cast Iron Pipe and Foundry Company was low bidder on 20,000 tons of cast iron pipe for San Juan, Porto Rico, and the product will be manufactured in this district. Smaller lettings are still being received by the United States Cast, the American Cast Iron Pipe Company and the National Cast Iron Pipe Company.

Some of the soil pipe makers are beginning to feel a little awakening of their market. Plans have been well laid for a larger production of both pressure pipe and sanitary pipe the coming year than ever before. The United States Cast has installed the DeLavaud method at North Birmingham and the National Cast Iron will have an addition to their plant at Tarrant City, suburb of Birmingham, within a few months. The soil pipe industry has had developments such as the new McWane Cast Iron Pipe company plant making 1½ inch pipe, to be in operation in March, the installation of soil pipe making machinery at the plant of the Birmingham Machine & Foundry Company and the proposed plant of the latter concern for the exclusive manufacture of sanitary pipe. All other soil pipe plants are

in fine shape and anticipate a steady operation the coming year.

Other iron consuming industries of the district are anticipating activity right from the start of 1923. The Nashville Bridge Company, at Bessemer, 12 miles from Birmingham, will be in position to take up operation within the next four weeks, the machinery now being placed. The Ingalls Iron Works steel fabricating plant in Birmingham has been getting in some healthy contracts. The Chickasaw Shipbuilding & Car Company, (Steel Corporation subsidiary) and the Virginia Bridge and Iron Co., steel fabrication and car building plant at East Birmingham, have contracts already in hand which will keep them busy for some time. Bids are being made for the repairing of a number of cars for Southern railroads while further equipment orders are to be placed before long which will assure steady operation for months.

Coal production is still being held down by the car and locomotive supply. The iron and steel industry is feeling a better improvement in transportation service than the coal producers, the weekly production of coal in Alabama being around 340,000 tons now. Domestic coal is in strong demand.

The coke market continues strong. The car service has improved to around 75 per cent and the surplus stock is still showing deflection from time to time.

PIG IRON.

No. 2 foundry, 1.75 to 2.25 per cent silicon, f. o. b. furnace, \$23.00 to \$25.00; No. 1 foundry, 2.25 to 2.75 per cent silicon, \$23.50 to \$25.50; iron of 2.75 to 3.25 per cent silicon, \$24.00 to \$26.00; iron of 3.25 to 3.75 per cent silicon, \$24.50 to \$26.50; iron of 3.75 to 4.25 per cent silicon, \$25.00 to \$27.00; charcoal iron, f. o. b. furnace, \$32.00.

OLD MATERIAL.

Old steel axles.....	\$18.00	to	\$20.00
Old iron axles.....	18.00	to	20.00
Old steel rails.....	14.00	to	15.00
Heavy melting steel.....	14.00	to	15.00
No. 1 R. R. wrought.....	15.00	to	15.50
No. 1 cast.....	17.50	to	18.00
Stove plate.....	15.00	to	17.00
Old car wheels.....	16.00	to	18.00
Old tramcar wheels.....	16.50	to	18.50
Machine shop turnings.....	10.00	to	11.00
Cast iron borings.....	10.00	to	11.00
Cast iron borings, (Chem.).....	15.50	to	16.00

Steel Ingot Production For Two Years.

The monthly production of steel ingots from January, 1921, to November, 1922, as reported to the American Iron and Steel Institute, by 30 companies which made 87.50 per cent of the steel ingot production in 1921 is as follows:

Months 1921	Open Hearth Gross Tons	Bessemer Gross Tons	All-Other Gross Tons	Total Gross Tons
January.....	1,591,281	608,276	3,629	2,203,186
February.....	1,295,863	450,818	2,796	1,749,477
March.....	1,175,591	392,983	2,404	1,570,978
April.....	1,000,053	211,755	2,150	1,213,958
May.....	1,047,810	216,497	1,543	1,265,850
June.....	808,286	193,644	1,476	1,003,406
July.....	689,489	113,312	575	803,376
August.....	915,334	221,116	1,621	1,138,071
September.....	908,381	265,159	1,277	1,174,740
October.....	1,269,945	345,837	1,028	1,616,810
November.....	1,294,371	363,912	1,718	1,660,001
Total—11 months ..	11,996,404	3,383,302	20,147	15,399,853
December.....	1,129,174	296,380	1,539	1,427,093
Total—whole year ..	13,125,578	3,679,682	21,686	16,826,946

Months 1922	Open Hearth Gross Tons	Bessemer Gross Tons	All-Other Gross Tons	Total Gross Tons
January.....	1,260,809	331,851	822	1,593,482
February.....	1,395,835	348,571	616	1,745,022
March.....	1,918,570	451,386	795	2,370,751
April.....	1,997,465	445,939	1,109	2,444,513
May.....	2,214,774	494,893	1,474	2,711,141
June.....	2,143,708	487,851	2,918	2,634,477
July.....	2,020,572	464,047	2,485	2,487,104
August.....	1,807,310	404,379	2,893	2,214,582
September.....	1,911,147	460,127	2,505	2,373,779
October.....	2,352,207	518,010	2,198	2,872,415
November.....	2,360,903	525,945	2,449	2,889,297
Total—11 months ..	21,383,300	4,932,099	20,264	26,335,563

RAILROADS

Georgia & Florida Railway's Big Line Improvement.

A report to the court by John Skelton Williams, receiver for the Georgia & Florida Railway, running from Augusta to Valdosta, Georgia, and Madison, Florida, says that with the completion of grade reductions in progress and nearly finished, the maximum grade on the entire main line from Valdosta to Augusta will be reduced (except for a short grade at Gracewood), to one per cent on northbound traffic, and from Augusta to Valdosta to 1 1/4 per cent on southbound traffic, greatly increasing the hauling capacity of trains and accomplishing a very material saving in operating costs. Locomotives which were formerly able to haul not over 15 freight cars on the heavy grade between Augusta and Keysville, Ga., are now able to handle about 50 freight cars to a train. Moreover, the entire work of revision is being accomplished for materially less than the original estimated cost.

The revision of line from Augusta to Keysville effected some radical improvements. For instance, between DeBruce and Hephzibah, about 4 1/2 miles, there were eliminated some grades of from 2 to 2 1/2 per cent, besides a dozen sharp curves, the new line in some places being half a mile from the old route and there are only four curves, none of them of more than four degrees. To accomplish this change several cuts from 30 to 45 feet deep had to be made besides several embankments of from 25 to nearly 50 feet high. Between Elwood and Blythe a distance of a little more than 5 miles, the new line in one place is located about a mile from the old route. On this section there were more than twenty bad curves and four severe grades averaging about 2 per cent, though at certain points some were much greater than that. On the new route established between these stations the grade is practically level and there are only two curves, both of them very easy. Near Blythe, going toward Keysville, a revision of something more than a mile long has done away with a heavy grade and several sharp curves, substituting an easy curve. Beyond Keysville is a revision 2 1/4 miles long which gives a grade of 1 per cent instead of from 2 to 2 1/2 per cent on the old route and easy curves have been made to take the place of sharp ones. A new connection from the main line to the Tennille branch has also been made near Keysville, this being a little over 2 miles long with easy curves and a practically level grade. The cost of these improvements has been about \$300,000.

Other work now under way includes revision of main line from Briar Creek southward 4 1/2 miles. This will cost about \$70,000.

Missouri, Kansas & Texas Plan Approved.

The reorganization plan for the Missouri, Kansas & Texas Railway System has been approved by the Interstate Commerce Commission. There will be stock and bond issues totalling at par \$196,800,000 besides 1,000,000 shares of common stock without par value and the annual fixed interest will total \$5,483,000. The capitalization of the old company was \$243,176,000 and the fixed charges \$7,183,000. It is proposed to issue prior lien mortgage bonds as follows: Series A, \$52,942,752; Series B, \$27,236,000; Series C, \$29,121,347. There will also be issued convertible adjustment mortgage bonds, Series A, \$57,500,000; preferred stock, 7 per cent, Series A, \$30,000,000 and such additional amounts up to \$57,500,000 for conversion of these latter bonds. There are to be pledged with the Director General of Railroads, \$6,500,000 of the prior lien mortgage bonds.

The Missouri, Kansas & Texas Railroad Co., the new corporation, is authorized to acquire control of the Missouri,

Kansas & Texas Railroad of Texas; the Texas Central Railroad, the Boonsville Railroad Bridge Co., the Wichita Falls Railway, the Wichita Falls & Northwestern Railway, the Wichita Falls & Wellington Railway, the Missouri, Kansas & Texas Terminal Co., of St. Louis, and the San Antonio Belt & Terminal Co. It is stated that a number of lines, mostly branches in Texas and Oklahoma, which were operated by the old company will not be taken into the new system, although they will continue in operation.

There are reorganization assessments, it is further remarked, of \$25 per share on the old common stock and of \$20 per share on the old preferred stock which are to raise the sum of \$18,420,000 cash under the reorganization plan. The stockholders paying these assessments are to receive common stock of the new company therefor, this stock, it is said, having voting power sufficient to control the new company.

Railroad Financing.

Application has been made by the Carolina, Clinchfield & Ohio Railway to the Interstate Commerce Commission for authority to issue \$9,500,000 first and consolidated mortgage 6 per cent gold bonds, the proceeds thereof to be used to reimburse the company's treasury and to meet maturing obligations.

The Georgia Railway & Power Co. has been authorized by the Georgia Public Service Commission to issue \$2,500,000 of first preferred cumulative stock.

Authority to issue \$405,000 of common capital stock has been granted by the Interstate Commerce Commission to the Ashburn, Sylvester & Camilla Railway Co. which has been formed to take over and operate 51 miles of the former Hawkinsville & Florida Southern Railway from Ashburn to Camilla, Ga. The proceeds will be employed to pay for the road and to rehabilitate it.

What the Railroads Are Earning.

The Association of Railway Executives reports that the operating revenues of the Class 1 railroads during October totaled \$549,284,800, an increase of 2½ per cent as compared with the same month of last year, but operating expenses totaled \$428,265,000, an increase of 7-4/5 per cent. Their net operating income for the month was \$85,234,000, or at the rate of 4.05 per cent annually on their tentative valuation, whereas in October of last year it was 5.01 per cent.

During the first ten months of the current year these railroads had gross operating revenues totaling \$4,574,506,000, a decrease of 2.1 per cent as compared with the same months of last year. Operating expenses totaled \$3,639,371,000 a decrease of 6.1 per cent. Net operating income totaled \$614,627,000, or at an annual rate of return of 3.97 per cent, as compared with 3.23 per cent for the same period of last year.

Survey for Connecting Line.

L. C. Fritch, of Chicago, vice president in charge of construction of the Rock Island Lines, is quoted in a report from Waurika, Okla., as saying that survey will begin immediately for a proposed extension from Waurika to connect with the Oklahoma, New Mexico & Pacific Railway (John Ringling's line), at Healdton, Okla. It is intended to start construction as soon as the survey is made.

Franchise Granted.

The City Council of Albany, Ala., has approved a thirty year franchise for the Alabama Traction Company, requested by John B. Weakley. It is stated that the franchise is similar to a franchise granted at Decatur, Ala.

HUGE ORDERS FOR EQUIPMENT. \$27,000,000 of Cars Ordered by Southern Pacific and Union Pacific, Many for Fruit Service.

President William Sproule, of the Southern Pacific System, is quoted in a report from San Francisco as announcing the construction of \$12,000,000 worth of cars for 1923. This will mean the purchase of 4525 freight cars and 141 passenger cars. Furthermore, this big equipment program is in addition to 5000 standard refrigerator cars and 300 refrigerator cars for passenger train service, lately ordered by the Pacific Fruit Express Co., in which the Southern Pacific Railway and the Union Pacific Railway are jointly interested, which order represents about \$15,000,000. The freight cars include 2500 box cars, 950 gondola cars, 500 stock cars, 500 logging cars, and 75 cabooses. The passenger cars include 60 day coaches for local trains, 15 day coaches for through trains, 10 dining cars, 11 buffet baggage cars, 35 mail and baggage cars and 10 straight baggage cars, all of the passenger equipment to be of steel construction. It is also important to note that the Pacific Fruit Express Co. has just received the last of 3300 refrigerator cars ordered early this year, delivery of which was delayed by the strikes. Thus when next year's orders are filled this company will have 27,500 cars in its fruit express service from California to the east. The Southern Pacific System has also just received the last of an order for 50 large freight locomotives.

St. Louis Southwestern Railway has ordered 500 steel underframe box cars from the Mount Vernon Car & Manufacturing Co., 500 automobile cars and 200 ballast cars from the American Car & Foundry Co.

Texas & Pacific Railway is reported in the market for 1000 gondola cars, 800 box cars and 200 automobile cars. It is also reported that this company will build a large number of box cars at its own shops in Marshall, Tex.

Norfolk Southern Earnings.

The October statement of the Norfolk Southern Railroad shows decided gains as compared with the same month of last year gross operating revenues being \$770,714 and net \$131,468, while in October of 1921 they were respectively, \$757,179 and \$124,563. For the ten months period of this year to October 31 gross operating revenues were \$6,893,007, an increase of more than \$266,000 as compared with the same period of last year, while net were \$851,798, an increase of more than \$335,000. It is observed that there has been a very gratifying increase in freight traffic on the Norfolk Southern system during the year and that the results to be accomplished by the end of the twelvemonth will be considerably better than anticipated.

Heavy Freight Traffic Continues.

Loadings of revenue freight on the railroads during the week ended November 25 totaled 955,495 cars and while this was 13,500 cars less than were loaded in the previous week, it was 282,000 cars more than were loaded during the same week of last year and 151,000 cars more than were loaded in the same week of 1920. The decrease as compared with the previous week was due,—it is stated by the car service division of the American Railway Association,—almost entirely to the decline in ore shipments owing to the stoppage of navigation on the Great Lakes.

Proposes to Build Extension.

The Charleston-Dunbar Traction Co. has applied to the City Council of Charleston, W. Va., for permission to build and operate a double track street car line with electric cars over several streets and to connect it with the existing line of the company and the line of the Kanawha Valley Traction Co. The announcement is signed by F. M. Staunton, Vice President.

GOOD ROADS AND STREETS

Road Building Records Surpassed in 1922.

All records for road construction in the United States were surpassed during the fiscal year of 1922, according to the annual report of the Bureau of Public Roads. During that period 10,000 miles of Federal-aid roads and more than an equal mileage of highways without Federal assistance were constructed. The roads brought to completion during the year averaged over 200 miles for each state. The greatest increase is reported from Texas, which added during the year 933 miles to its completed highways. Five states show an increase of more than 500 miles each and of this number three are Southern states, namely—Arkansas, Georgia, and North Carolina, the other two states being Iowa and Minnesota. A number of states, such as Louisiana, Maryland, Massachusetts, and Rhode Island made notable advances toward the goal of a completed highway system. The largest payment of Federal-aid during the year also went to Texas, which received from the Government \$5,915,046 and earned nearly \$2,500,000 more.

The total length of projects throughout the country in all states including those which have been completed and those which are in the stages preliminary to construction is 39,940 miles, 4538 miles greater than at the close of the preceding fiscal year. When projects completed aggregated 7469 miles and there were 17,978 miles under construction, estimated as averaging 50 per cent complete. In one year the completed mileage has shown an increase of more than 10,000 miles and there remains under construction 14,513 miles estimated as 56 per cent complete.

A total of \$166,911,500 has been paid to the various states on completed and uncompleted projects. When the past fiscal year opened there was an unobligated balance of about \$18,800,000 of appropriations, and by the end of October, 1921, the balance had been reduced to \$11,700,000, the lowest since 1918. Following the approval of the new Federal Highway Act the initiation of projects took on new life and in the months of March and June reached the unprecedented total of 1250 miles a month.

Let Contracts for Virginia Roads.

Richmond, Va.—The State Highway Commission announces the acceptance of an allocation of \$275,000 under the Robinson Act to help pay the cost of work on that part of the Lee Highway extending from Arlington to Fairfax Court House.

The contract for five and five-tenths miles of highway between Franklin and Carrsville has been awarded to Ford & Harvey, of Lynchburg at a cost of, \$175,000. Rhodes & Waugh, of Raccoon Ford, received the contract for 8.41 miles of soil road between Wilderness Tavern and Lignum, at a cost of about \$40,000. B. W. Pomeroy was awarded the contract for 1.74 miles of road in Westmoreland County to cost \$12,290. Sampson & Parker received the contract for a bridge over Buffalo Creek to cost \$17,000.

Louisiana Highway Contracts Total \$300,000.

Baton Rouge, La.—The Louisiana Highway Commission recently awarded contracts involving the expenditure of about \$300,000 as follows:

Jefferson Highway, Melville to Port Allen, to Maggio-Attelo, of East Baton Rouge, gravel roadway three miles long to cost about \$25,000; Tallulah-St. Joseph Highway, 18.5 miles long to S. A. Gano, of New Orleans, at a cost of \$220,756; and Greensburgh-Flinker Highway 6.21 miles long to the Kentwood Gravel Co., Kentwood, La., at a cost of \$67,650.

\$2,500,000 Road Contract in Hillsborough County.

Tampa, Fla.—Contracts have been awarded by the Board of Commissioners of Hillsborough County for 143.17 miles of roads involving the expenditure of more than \$2,500,000. The longest section is the Ruskin road, which will be paved for 27 miles a width of 15 feet with three inch asphalt blocks. All of the 15 sections of the roads will be of sheet asphalt and asphalt blocks laid on concrete base. They are to be completed within 18 months.

The successful bidders are as follows:—McDonald Construction Co., Orlando, \$914,498; Warren & Carroll, \$759,321; Cone Bros., \$419,681; Yeats & Co., \$296,669; and Bruen & Sullivan, \$92,138.

Complete 60 Miles of Concrete Highways.

Kinston, N. C.—Ernest B. Webb, chairman of the local Road Commission, in a recent announcement stated that a final report to be published shortly will show approximately 60 miles of concrete highways constructed in the county at a total cost of \$2,800,000. The roads that have been hard surfaced extend from Kinston towards Goldsboro, New Bern, Dublin, Snow Hill, and Greenville. In addition many bridges were constructed along the new routes, being separate from the main county bridge system. About \$2,000,000 represents the money invested by the county in this work.

\$570,000 Road Contract Awarded.

Jefferson City, Mo.—The State Highway Commission recently let a contract for construction of additional roads in Mississippi County at a cost of about \$570,000, of which amount a greater portion is from a bond issue voted two years ago. The new work includes fourteen miles of road south of Anniston and ten miles south of Charleston, Mo. Specifications call for a nine foot concrete roadway on one side and a seven foot gravel pavement on the other, making a total width of sixteen feet. Roy C. Williams of Wyatt, Mo., was the lowest bidder.

Florida Road Contract Totals Nearly \$240,000.

Fort Pierce, Fla.—Contract for construction of the Vero-Wabasso unit of the State—Federal Aid Dixie Highway project through the north end of St. Lucie County has been awarded to the E. P. Maule Paving Co., Ojus, Fla., for \$237,578, according to an announcement received by E. H. Collins, county engineer. The section is about eight miles long. The entire project extends from Vero to the Sebastian River.

Contract Let for 14 Mile Road at \$500,000.

Edinburg, Tex.—Hidalgo County has recently awarded contract for a new road to cost \$500,000 between Edinburg and Val Verde, a distance of fourteen miles. The road will be of gravel, of crushed stone base with rock asphalt top, and eighteen feet in width. W. L. Pearson & Co. have the contract for the base and Smith Bros. for the asphalt top. P. S. Devine of Pharr is the engineer in charge.

\$300,000 for Georgia Road and Bridge Contracts.

Atlanta, Ga.—Road contracts were awarded last week by the State Highway Board involving an expenditure of \$300,000. Six projects aggregating about 40 miles of construction work were let in addition to the contract for one bridge. This includes work in Wilkes, Cook, Early and Pulaski Counties.

Monroe-Ruston Highway to Cost \$140,000.

Monroe, La.—The Meyer-Greenwald Construction Co. of Meridian, Miss. has the contract for construction of the Monroe-Ruston link of the Dixie Highway at a cost of about \$140,000.

LUMBER AND BUILDING MATERIALS

Prosperous Outlook for Common Brick Industry.

"There are unmistakable indications that the common brick industry of America is taking on a new lease of life," states the Common Brick Manufacturers' Association of America in its latest monthly digest, and adds: "These indications have been apparent for several months and are so consistent in their trend that it is safe today to say that this business, which had its beginning in Babylon centuries before the recording of history, is assuming a businesslike mien and a prosperity that it has not known before."

Discussing this point further, the digest says:

"This, of course, applies to the industry in the United States. There are some brick manufacturers who will say that it applies to only a part of the country because they have not yet sensed this revival. But it is not a sectional improvement, it certainly is a substantial, inherent betterment which will spread to all plants. In the limited section of the country where there is no marked improvement it is due to local conditions that are holding back building operations. Wherever building is being done there is an increased demand for brick that is giving existing plants practically a capacity market.

"The message of this association to the common brick manufacturers of America is to stress the need for efficiency in their plants, intensifying of sales effort and expansion of capacity as rapidly as the market will permit. The United States is going to use more brick during the next five years than it ever before consumed in a like period. The men now in the business, who have, in many cases, given nearly a lifetime to the industry, should be the men to meet this situation. The one danger confronting them is that they will not respond quickly enough to this increasing demand. In some centers today builders are forced to use substitutes for brick because the manufacturers have not kept pace with the market. There comes into the market a variety of makeshifts in the form of a brick but made out of any inexpensive raw material from cinders to sawdust. These are not brick, for according to the twenty-two dictionaries and encyclopedias published in English a brick is "a unit of burned clay." The substitutes are not even similar in nature, none of them published in English a brick is "a unit of burned clay." The substitutes are not even similar in nature, none of them being burned as is a brick. This process removes all combustible and changeable matter and leaves a product that can neither decay or burn.

"There is a swing of the pendulum toward common brick on the part of leading architects. This natural product plus the architect's skill is capable of producing the most attractive effects as is evidenced by its use in many pretentious residences and in schools and apartments recently built.

"The week of February 5, 1923, is to be celebrated as National Brick Week. At that time the common brick manufacturers of the country will be in attendance at the fifth annual convention of the Common Brick Manufacturers' Association of America in Cleveland. There plans will be laid for the most complete and aggressive campaign of advertising and promotion that ever has been put back of any industry in America. The architect, the engineer, the contractor and the building public are to be told the story of brick until there is a nation-wide appreciation of this most economical of all building materials.

"All of the foregoing is deduced from the figures that come to the Common Brick Manufacturers' Association month after month from 350 member manufacturers in forty-four states of the United States, producing 70 per cent of the country's output of common brick.

"The current reports indicate a strength in demand that is unusual at this time of year. The table shows the relation of stocks and orders. Compared with a month ago this shows that orders on the books have not diminished while stocks are lower.

"Some plants are closing on account of the season and where stocks are being piled up it is with a certainty of a demand for them next spring.

"Coal and transportation conditions remain about the same as during the period since the settlement of the strikes.

"The price of brick holds firm and a composite of the country is \$13.82 delivered on the job. The actual range in price is from \$8.00 in Texas, where there is a destructive and unnecessary price war, to \$19.00 in the Philadelphia and Washington district, where plants are sold out for the year."

Lumber Sales Hold Up Well Despite Season.

New Orleans, La.—Lumber sales continued to hold up well, despite the approach of severe weather and for the week ended December 1 orders received by 121 mills of the Southern Pine Association totalled 3148 cars containing 71,107,024 feet, the average order being 587,661 feet per mill. Shipments during the week showed a further increase as compared with preceding weeks, the total being 3393 cars containing 76,641,084 feet, giving an average shipment of 633,397 feet per mill, which surpasses by a good margin the high figure for the preceding week. Production maintains an even level aggregating 71,279,687 feet for the week.

Judging from lumber sales, building permits issued, and contracts awarded throughout the country, the construction program is about 60 days in advance of the normal for this period of the year, and with the vast amount of new work to be started early in 1923 the volume of building now in sight surpasses that of any preceding year. In many sections there is an acute shortage of labor in the building trade and those persons who are engaged in projects that will not be advanced during the winter months will find plenty of work in sections where climatic conditions are more favorable to work throughout the year. However, the slackening in activity in northern states will be less this year than heretofore due to the successful efforts to carry construction work on throughout the entire year.

Shipments of lumber from Southern pine mills for the week ended December 1 were 7.52 per cent above production. Orders were .24 per cent below production and 7.22 per cent below shipments. There was a decrease in orders on hand during the week of 1.48 per cent.

Summary of 121 mills for the week.

	Cars	Feet
Orders on Hand beginning of Week	16,559	374,034,892
Orders Received during Week	3,148	71,107,024
Total	19,707	445,141,716
Shipments during week	3,393	76,641,084
Orders on Hand end of Week	16,314	368,500,632

Shipments of Portland Cement Reach Peak.

Shipments of Portland cement during the first ten months of 1922 were 101,538,000 barrels and for the first time reached and passed the 100,000,000 barrel mark. The result was accomplished in the face of very disturbing circumstances but the demand for cement was strong and continues steady. As a result of this demand, production and shipments will probably be maintained throughout the year resulting in an output of 100,000,000 barrels and a consumption of between 110,000,000 barrels and a consumption of between 110,000,000 and 115,000,000 barrels.

October shipments were 12,854,000 barrels despite disturbed business by reason of the recent strikes and the necessity for moving coal and other freight. In ten months last year shipments totaled 86,159,000 barrels. Thus it will be seen that shipments in ten months this year were about 18 per cent greater than for the corresponding period of 1921.

Production during the current year was over 10,000,000 barrels ahead of the 1921 figures, being 93,850,000 barrels, representing an increase of 10,838,000 barrels—a gain of a little more than 13 per cent.

At the end of October there were at the mills 4,157,000 barrels and inasmuch as stocks have been lowered during the summer it is necessary that mills keep in operation through practically the whole of 1922. Stocks of clinker at the mills were 2,336,000 barrels at the close of business in September and had decreased to 1,921,000 barrels at the end of October.

Wooden Water Mains Stand Test of Time.

Wooden water mains and service pipes, still in use, were recently unearthed in one of the oldest sections of Baltimore, and from information available it is thought possible that the pipes were laid as early as 1745 in connection with a factory built at that time. The present city water works date back to 1807.

The mains were of nine inch logs, rounded and smoothed with a hole four inches in diameter bored through the center



SHOWING METHOD OF JOINING WOODEN WATER MAINS AND SERVICE PIPE.

of each section, averaging from six to eight feet in length. The joints were formed by inserting the tapered end of one section into the bore of the next section, the joints being bound with iron hoops and mortar to make them water tight. The service pipes were of smaller logs with holes about one and a half inch in diameter. A tapering copper spigot driven through the side of the main and into the end of a service pipe made up the connection. At one place a spigot of this type had been used for establishing a connection with an iron service pipe of later installation. The copper spigots and the wood mains were in perfect condition when removed.

Conditions in North Carolina Pine.

Norfolk, Va.—Reports from 47 mills of the North Carolina Pine Association for the week ended December 2 show receipt of orders totalling 10,891,576 feet. Shipments aggregated 10,004,593 feet, while production amounted to 10,692,248 feet.

Orders for the week were 9 per cent above shipments and 2 per cent above production. Shipments were 6 per cent below production. There was a decrease in orders compared with the preceding week of 14 per cent.

New Orleans Adopts Standard Specifications.

New Orleans.—Fifteen of the leading retail lumber dealers in New Orleans, comprising a large majority of all lumber yards in the city, have entered into an agreement effective January 1, 1923, to adopt and use the standard specifications for grades of Southern yellow pine lumber issued by the Southern Pine Association in their sales of this material.

This action means the abolition by the dealers signing the

agreement, and the virtual abolition in New Orleans, of the old Contractors & Dealers' Exchange grading rules, which have been in vogue in New Orleans for the greater part of the last half century. It is in line with the nation-wide movement, initiated by the United States Department of Commerce, for standardization and simplification of grades, sizes and specifications in the entire lumber industry.

Seasonal Let-Down in Lumber Movement.

Washington.—Seasonal restriction of lumber manufacture and merchandising made itself very evident in the sharply lowered figures that record the weekly lumber movement for the week ending December 2, says a statement by the National Lumber Manufacturers' Association made up from telegraphic reports. From a week of exceptional activity for this time of year the industry appears to have gone into one of dullness, at least of dullness for this year. Orders fell off more than 20 per cent from the figures of the preceding week, shipments and production about 15 per cent.

While the arrival of winter is doubtless accountable for much of the restriction, including the shutting down of all but two mills of the Northern Pine Association, the continuation of the car shortage is a large factor in the south and west. The mills of the Northern Hemlock and Hardwood Manufacturers' Association, operating in Michigan and Wisconsin, report that logging operations are being retarded for lack of men, there being only 75 per cent of the number in the woods that are needed. On account of the heavy shipments throughout this year, a big log supply is necessary to increased production and stock accumulations next year.

While the West Coast seems to be the greatest sufferer from inadequate transportation, parts of the South in which the car shortage for months has been virtually continuous, are practically blockaded. The mills of the West Coast Lumbermen's Association were able to ship only 80 per cent of their reduced cut, while their orders were 84 per cent of the cut. The Southern pine mills reported that shipments were 108 per cent of production, and the reporting mills of the eight regional softwood associations show their shipments to be 80 per cent and their orders 84 per cent of production. These percentages come from 378 mills, as against 427 for the preceding week. Of the former 352 have a normal production for the past week of 224,443,402; compared with which actual production was 91 per cent, shipments 81 per cent and orders 80 per cent. The lumber movement for the past week as compared with the preceding week and the corresponding week of 1921 was as follows:

	Past Week	Same Week 1921	Preceding Week
Mills Reporting	378	357	427 (revised)
Production	209,889,841	160,300,732	245,679,639
Shipments	194,793,974	163,376,518	227,577,929
Orders	190,135,201	131,790,057	244,518,656

The first 48 weeks of 1922 as compared with the same period in 1921 are as follows:

	Production	Shipments	Orders
1922	10,674,213,525	10,611,271,283	10,772,233,321
1921	7,638,051,236	7,727,749,816	7,934,181,664
1922 Increase	3,036,162,289	2,883,521,467	2,838,051,657

	Production		Shipments		Orders	
	1922	1921	1922	1921	1922	1921
Southern Pine Association, Total.....	3,563,252,013	3,378,977,908	3,450,845,139	3,569,189,184	3,611,785,366	3,560,182,373
Week (121 mills)	71,279,687	71,575,164	76,641,084	69,198,410	71,107,024	51,204,704
West Coast Lumbermen's Association, Total..	4,095,007,128	2,557,147,175	3,755,427,831	2,614,776,513	3,857,325,218	2,662,272,770
Week (145 mills)	89,473,981	60,218,037	71,403,607	55,395,960	75,489,101	46,172,192
Western Pine Manufacturers Association, Total	1,147,993,000	682,710,082	1,125,070,000	680,767,728	1,180,200,000	692,225,000
Week (41 mills)	27,242,000	10,133,000	20,359,000	17,214,000	20,575,000	15,650,000
California White and Sugar Pine Mfrs., Total..	526,243,000	325,080,000	343,396,000	246,640,000	815,092,000	417,748,000
Week (4 mills)	2,675,000	1,080,000	3,218,000	1,964,000	2,492,000	1,028,000
California Redwood Association, Total.....	384,131,000	279,934,000	338,533,000	204,207,000	360,463,000	206,575,000
Week (14 mills)	8,527,000	7,239,000	7,573,000	5,862,000	5,791,000	9,312,000
North Carolina Pine Association, Total.....	458,399,006	323,137,071	467,107,383	315,341,391	458,102,737	309,184,521
Week (31 mills)	7,190,173	9,433,531	6,297,918	10,965,148	7,011,076	6,481,161
Northern Hemlock & Hardwood, Total.....	95,811,000	90,165,000	134,391,000	96,828,000	121,478,000	85,994,000
Week (13 mills)	726,000	622,000	1,143,000	2,777,000	624,000	1,942,000
Northern Pine Manufacturers Assn., Total.....	403,377,378	277,000,000	396,500,930	8,158,865	387,787,000	7,046,000
Week (9 mills)	2,776,000				7,046,000	
General total for 48 weeks.....	10,674,213,525	7,638,051,236	10,611,271,283	7,727,749,816	10,772,233,321	7,934,181,664
General total for week	209,889,841	160,300,732	194,793,974	163,376,518	190,135,201	131,790,057

TEXTILE

Ware Shoals \$1,000,000 Building Program.

Ware Shoals, S. C.—Building operations completed during 1922 or now in process of construction by the Ware Shoals Manufacturing Co. total approximately \$1,000,000.

The company has a total of more than 70,000 spindles and is running day and night employing about 1750 operatives on two shifts. The bag factory which has been in operation but a short time is turning out from 90,000 to 110,000 bags daily with 100 persons engaged. The bags which for the most part are made from cloth manufactured here are used for shipping sugar and cement. The factory is now occupying the structure known as mill No. 2 but when the improvements under way are completed it will be in a building by itself.

The population of Ware Shoals has increased from 3000 to about 5000 as a result of the unusual amount of construction work going on and the capacity operation in all departments.

The new work includes a bleachery with a weekly capacity of about 800,000 yards; a steam power plant to be used as a standby unit during periods of low water; a 55-room hotel; and a bag factory. In addition there are smaller structures for various purposes.

The contract was recently let for 20 houses, 75 having been built earlier in the year. Plans for construction of 40 additional houses are now under consideration.

The auxiliary steam power plant is nearing completion and will be ready for operation in the near future. The mill is running full time for five and a half days a week, but the new plant has been erected as a precaution against low water which might some time curtail activities.

The construction of a three-story garage and lodge building is also being considered. Tentative plans call for the first floor to be used as a stock room, the second for repair and display of cars, with the top floor as a lodge room.

Judson Mills to Vote on Additional Stock Increase.

Greenville, S. C.—A meeting of the stockholders of the Judson Mills will be held on December 27 to vote on a proposed increase in their capital stock from \$2,500,000 to \$3,250,000, according to an announcement by B. E. Geer. This will be the second increase in the past few months, the capital stock having recently been increased to \$2,500,000 from \$1,200,000. The additional capital secured will be used in connection with the large plant expansion now under way which will increase the output about 60 per cent besides providing a greatly enlarged village for operatives.

100 New Houses for Mill Operatives.

Fort Payne, Ala.—Contract has been awarded for the construction of 100 houses for operatives of the mill of W. B. Davis & Son, Inc. These houses, which will be of from five to eight rooms each, will be modern in every respect, and their construction will greatly relieve the shortage in dwellings. Recently 100 houses were built here, and with the completion of those just let to contract, there will be 200 new dwellings erected in less than 18 months.

Developments Likely to Follow Stock Increase.

Albemarle, N. C.—The stockholders of the Wiscasset Mills Co. of this city have voted to increase the capital stock from \$1,200,000 to \$5,000,000. It is believed that the action will result in a big development program being fulfilled. The Mills have been very successful and the products have a well established reputation throughout the country. J. F. Cannon is general manager of the plant.

Textiles Now 21 Per Cent of Country's Total Domestic Exports.

In the first ten months of the year 1922 textile commodities formed 21 per cent of the total domestic exports of the United States, the value of the total exports being \$3,051,177,000 and that of textiles \$642,878,000. In the corresponding months of 1921 the same commodities formed 14.41 per cent of our domestic exports. Of the textile values, cotton and cotton manufactures contributed \$599,786,000.

It is in cotton manufactures that the largest increases are to be noted. Higher price levels and unsettled conditions abroad, particularly in Germany, have tended to reduce takings of raw cotton, exports of which show a decrease this year of 537,962 bales; nevertheless the value has risen \$75,929,192, or 18.60 per cent.

In favorable contrast with this, cotton-cloth shipments up to October 31, 1922, rose 9.21 per cent in quantity and 19.47 per cent in value over corresponding totals for 1921. The inference to be drawn from this increase of value over quantity is that there has been a larger export of the finer cloths and that manufacturers of the United States are gradually widening the field in which they are able successfully to compete with other nations.

Groves Mills Will Erect New Buildings—15,000 Spindles to Be Installed.

Gastonia, N. C.—The Groves Mills, Inc., with a capital of \$500,000 will expend \$75,000 on new buildings having a floor area of 700,000 square feet. Construction bids will be received this month for the structures which will be of brick and steel. Fine combed yarns will be manufactured, and 15,000 spindles will be installed for this purpose.

J. H. Mayes, Charlotte, has been selected as the architect-engineer. The officers of the company are as follows: H. H. Groves, 225 Fifth Avenue, New York, president and treasurer. A. G. Mangum, vice-president; F. Lavender, secretary; and E. E. Groves, Gastonia, assistant treasurer and manager.

Virginia Woolen Company to Erect Building.

Winchester, Va.—The Virginia Woolen Co. recently organized with a capital of \$25,000 plans the erection of a new building of brick and steel to cost about \$40,000 with machinery and equipment costing a like amount. The output will be mens' wear woolens; 32 looms will be installed. The main building will be 61 by 160 feet and construction will be undertaken by the company's force. About 325 operatives will be engaged when the plant is completed. J. G. Reardon of Winchester will handle the architectural and engineering work for Lockwood, Greene & Co., Boston, Mass. The officers of the new company are: T. B. Patton, president; Fred L. Glalze, vice president; Shirley Carter, secretary and treasurer; and H. B. McCormac, manager.

10,000 Spindle Mill for Gaston County.

Gastonia, N. C.—G. W. Ragan and associates have announced plans for a 10,000 spindle mill to be known as the Ragan Spinning Co., Gaston County's 103rd cotton mill. The authorized capital stock is \$500,000, and fine combed yarns will be produced. As soon as preliminary arrangements are completed actual construction will begin and it is proposed to have the plant in operation by September, 1923. Among those interested in the new company are: G. W. Ragan, R. L. and S. P. Stowe, of Belmont, A. G. Myers and Caldwell Ragan.

The Asheville Knitting Mills have just been incorporated at Asheville, N. C. with a capital stock of \$50,000. Among those interested are W. Y. Frazier and R. E. Frazier, Asheville, and H. G. Alexander, Greensboro.

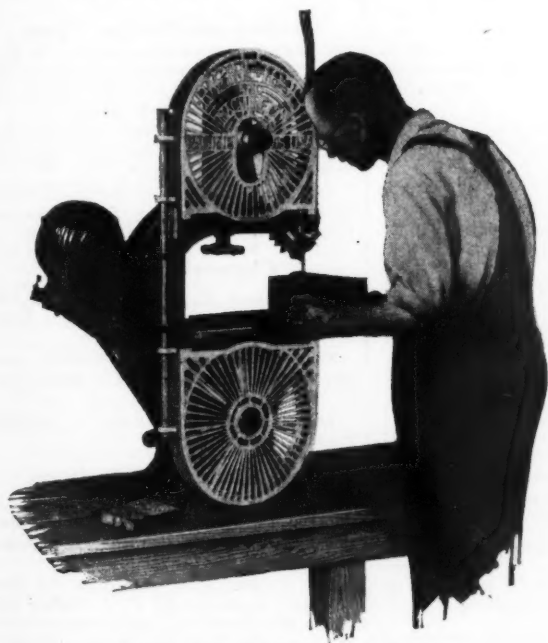
MECHANICAL

Duplex Type Portable Band Saw.

A portable band saw of the duplex type for wood and metal cutting is shown in the accompanying illustration. This machine which is a product of the Racine Tool & Machine Company, Racine, Wis., possesses unique features that will be appreciated. It is stated that it is the only portable metal cutting band saw on the market and that it is the only machine specially designed to cut wood or metal. By means of a two speed attachment and a special saw guide users are able to interchange wood or metal bands quickly, or use the latest combination spring temper blades for cutting soft metal or wood at high speed.

The manufacturers observe that their experience thus far leads them to believe that the machine opens up a new and undeveloped field. "It proves," they say, "to be one of the handiest machines in any tool room and for pattern work it is indispensable. Sprue cutting is another important field. Shaping jobs of many kinds in steel or iron, aluminum and brass cutting of all kinds, fibre and hard rubber cutting in curves of squares; the enumeration of a few general uses give some idea of the broad scope of usefulness for the machine, which is primarily practical; it is not an experiment, as we have had many in continual operation under our observation for the past three years."

Concerning the machine as a time saver in shops it is remarked that in addition to maintaining one or two centrally located stationary saws, it is good economy to have available a number of small, portable machines for bench use,



BAND SAW IN USE ON A BENCH.

using a large stationary band saw only for big jobs that cannot be handled to the best advantage with a small machine. In this saw unnecessary parts have been eliminated and efficiency of operations has been highly developed. It runs smoothly and true, and vibration is cut to a minimum by having the band saw wheels run on ball bearings. Perfect alignment of the blade is secured by means of a sensitive hand screw for tilting the upper wheel. Tension on the blade is similarly controlled. There is also a safety to prevent breaking the saw blade.

Commendations, Kicks and Comments

A Forecaster.

A. G. HAMMETT, Shreveport, La.—Your publication is great, and all of us who have read it for the past two years have found great comfort in your prediction of the future.

Best Business Partner.

ROY EDWARDS, Blocker, Okla.—I am enclosing post office money order for \$6.50. Please extend my subscription to the MANUFACTURERS RECORD for one year from expiration date, because I cannot do without the RECORD. It is my best business partner.

A Defender of Public Morals.

H. H. MCNEILL, Pastor, M. E. Church, South, Marianna, Fla.—I thank you for the courtesy extended to ministers. You are not only a broad-visioned, fearless statesman, but you are also a gallant defender of public morals and the truth of Christian religion.

The RECORD is a potent factor in politics and national righteousness.

From Far Away Korea.

MR. C. H. DEAL, formerly of Spartanburg, S. C., and now manager of the Textile department of the Songdo Higher Common School, Songdo, Korea, writing to the MANUFACTURERS RECORDS says:

"I am herewith enclosing a check for \$12 on the First National Bank of Spartanburg, S. C., to cover subscription of the MANUFACTURERS RECORD for 20 months, beginning August 3d, as per enclosed statement."

100% Per Cent Indorsement.

RALPH H. RICE, President, National Fidelity Life Insurance Company, Sioux City, U. S. A.—Your sentiments are 100 per cent our own on the "Booze" question. It would seem quite evident that I have been missing something in that your splendid journal has not heretofore been a regular visitor to my desk, and I would ask that our company be enrolled as a subscriber, and that the MANUFACTURERS RECORD be sent to our Kansas City office.

Commends Straightforward Way of Handling Subjects.

W. C. WILSON, (Traveling Salesman), Ironton, O.—Enclosed my check for \$11, which covers the special offer of two years' subscription to your magazine, and the extra dollar for one each of your books.

I am well pleased with your paper, and appreciate the straightforward way that each subject is handled. And the Prohibition question is covered just right, to my way of thinking, and more power to you.

If we had more of this kind of writing, scattered through the country, it would be a blessing to everyone.

Let the Good Work Go On.

MOUNT OLIVE STAVE COMPANY, Batesville, Ark.—We would thank you very much to forward to Hon. W. A. Oldfield, Washington, D. C., a copy of your RECORD under date of November 16, as we should like for Mr. Oldfield to read the article on page 53, as we feel that it is very timely indeed.

We get much valuable information from your journal, and wish it were possible for every Congressman and Senator and public official to have a copy of it before them as they could, no doubt, be very much benefited by the reading of the MANUFACTURERS RECORD.

More of Old Time Faith Needed.

GEO. GORTON, Trustee, Cement, Okla.—Please renew my subscription to MANUFACTURERS RECORD, truly, the "Exponent of America."

Also accept if you will, my personal thanks for the manner in which you are carrying on the battle for the preservation of all things good.

What we all need is more of the old time faith of our grandfathers and grandmothers, in their simple and complete acceptance of God's truths as given in His book without any foolish eliminations or explanations so frequently heard and if continued in are destined to be the curse of the world.

Fortunately the strength of the Lord is sufficient to make one of His true followers, more powerful than ten opponents, and we know that His truths will finally prevail.

Construction Department

EXPLANATORY

Additional information is published about all enterprises mentioned in this department as soon as such data can be obtained. Further facts about any incomplete or incorrect item reported in these columns are always appreciated.

DAILY BULLETIN

The Daily Bulletin is published every business day to enable its subscribers to follow up promptly the industrial, commercial, railroad, financial, building and general business development of the South and Southwest. To machinery manufacturers and dealers, contractors, engineers, and others who require daily information of every new enterprise organized and details about important additions to enterprises already established, the Daily Bulletin is invaluable. Subscription price, \$20.00 a year.

Airplane Plants, Stations, Etc.

Mo., Kansas City—International Aircraft Co., will erect new building on Davenport road, and transfer equipment for repair and maintenance of airplanes from old plant; construction to begin in spring of 1923.

Bridges, Culverts and Viaducts.

Ala., Columbiana—State Highway Dept., Montgomery, Ala., received bids to build bridges on Birmingham-Montgomery Highway, through Shelby County; Jere Gwin, Birmingham, Ala., at \$80,448, low bidder.

Fla., Jacksonville—Duvall County Commrs., Chas. A. Clark, Chrmn., will receive bids soon to build bridge over Gardner Branch. C. S. Coe, County Engr.

Fla., St. Augustine—St. Johns County Commissioners will receive bids Jan. 10 to build wooden bridge over Jullington Creek, connecting Duval and St. Johns Counties; two 40-ft. open spans.

Fla., St. Petersburg—For full details see Water Works.

Ga., Albany—Dougherty County Commrs., let contract to F. M. Dobson & Son, Montgomery, Ala., at \$12,661.50 to construct overpass at intersection of Central of Georgia Ry., with proposed new section of Dixie Highway near Albany.

Ga., Hawkinsville—State Highway Dept., Atlanta, Ga., let contract to Atkinson Construction Co., Thomasville, Ga., at \$25,176.72, to build bridge across Bluff Creek, between Hawkinsville and Abbeville.

Missouri—State Highway Dept., Jefferson City, Mo., plans building following:

Audrain County, reinforced concrete bridge, on State road from Moberly to Centralia, over Youngs Creek; Federal Aid Proj. No. 194; R. H. Hodson, Div. Engr., Jefferson City.

Buchanan County, 4 steel and reinforced concrete bridges on State road from St. Joseph to Chillicothe, over One Hundred and Two River, Platte River, Third Fork of Platte River and Overflow Channel of Third Fork of Platte River; N. R. Sack, Div. Engr., Ballinger Bldg., St. Joseph, Mo.

Butler County, reinforced concrete bridge on State road from Poplar Bluff to Elsimore; over Pike Creek; Federal Aid Proj. No. 207; F. B. Newton, Div. Engr., Sikeston, Mo.

Cedar County, reinforced concrete bridge, on State road from Eldorado Springs to Springfield; over Town Branch; Federal Aid Proj. No. 192.

Cedar County, reinforced concrete bridge on State road from Osceola to Eldorado Springs, over Walnut Creek; Federal Aid Proj. No. 215; Ray Dunlap, Div. Engr., Frisco Bldg., Joplin, Mo.

Christian County, reinforced concrete bridge on State road from Ozark to Springfield, over Finley Creek; Federal Aid Proj. No.

36; H. P. Moberly, Div. Engr., Woodruff Bldg., Springfield.

Dade County, steel truss span, on State road from Greenfield to Stockton, over Branch of Greasy Creek; Federal Aid Proj. No. 213; Ray Dunlap, Div. Engr., Frisco Bldg., Joplin, Mo.

Dunklin County, 2 steel truss and 2 I-beam spans, on State road from Kennett to Cardwell, over Kinnamore Drainage Ditch, Honey Cypress Drainage Ditch, etc., Federal Aid Proj. Nos. 209—B and C.

Dunklin County, 8 reinforced concrete bridges on State road from Kennett to Poplar Bluff, over Overflow of St. Francis River, Drainage Ditches Nos. 23 and 12, etc.; Federal Aid Project No. 221A; F. B. Newton, Div. Engr., Sikeston.

Jasper County, reinforced concrete bridge on State road from Springfield to Carthage, over Spring River; Federal Aid Proj. No. 84; Ray Dunlap, Div. Engr., Frisco Bldg., Joplin, Mo.

Madison County, 4 reinforced concrete and steel truss spans, on State road from Iron-ton to Fredericktown, over Turkey Creek, Piney Creek, Barnes Creek, Plum Creek; Federal Aid Proj. No. 203A; F. B. Newton, Div. Engr., Sikeston.

Platte County, steel truss span, on State road from Kansas City to St. Joseph, over Platte River; Federal Aid Proj. No. 93; A. C. Lingley, Div. Engr., Reliance Bldg., Kansas City, Mo.

Okla., Pawhuska—Osage County, Will M. Clark, Engr., will receive bids until Dec. 11 to construct following:

4 concrete culverts on Mile C and D.
10 concrete culverts on Fairfax-Pawhuska road.

Bridge over Dog Thrasher Creek.

Bridge over Mission Creek.

Bridge over Charley Creek.

Bridge over 4 Mile Creek.

Bridge over Kemper Creek.

Bridge, 3 mi. north of Fairfax.

Bridge over Solomon Creek.

Bridge over Little Chief Creek.

S. C., Allendale—For full details see Mch. Wanted—Road and Bridge Construction.

S. C., Carlisle—Seaboard Air Line R. R., W. C. Faucett, Ch. Engr., Norfolk, Va., will build overhead bridge at grade crossing, 1 mi. from Carlisle, on Calhoun highway.

S. C., Spartanburg—City let contract to Harwood Beebe Engr., Spartanburg, and F. M. Masters, Engr., Harrisburg, Pa., to prepare plans and specifications for W. Main St. viaduct, to span valley through which C. & W. C. Ry. extends. Address The Mayor.

Tenn., Knoxville—N. B. Kuhlman, City Commr. will repair 5th Ave. bridge.

Tex., Gause—Milam County will receive bids soon to construct bridge across Brazos River near Gause; connecting Milam and Robertson Counties; \$120,000.

Tex., Houston—City plans building reinforced concrete bridge on Polk Ave. over Slaughter Pen Bayou; \$15,000; also plans improving Polk Ave., to Dumble St. Address City Engr.

Tex., Houston—O. F. Holcombe, Mayor, plans expending \$260,000 to build viaduct to span Buffalo Bayou, connecting Smith and 6th Sts.

Tex., San Antonio—City, D. D. Harrigan, Engr., plans expending \$5000 to build wooden bridge across San Antonio River, at Lakeview Ave. and Martin St.; asphalt floor.

Tex., Sequim—City plans building reinforced concrete bridge over Walnut Branch to Court St., to replace wooden bridge; Terrell & Bartlett, Engrs., Calcasieu Bldg., San Antonio, Tex.

W. Va., Parkersburg—Baltimore & Ohio R. R., H. A. Lane, Ch. Engr., Baltimore, Md., may construct bridge across Little Kanawha River.

Canning and Packing Plants.

N. C., Raleigh—Raleigh Packing & Provision Co., capital \$150,000, inctpd. by J. W. and J. F. Williams of High Point, N. C., M. M. Woodward and J. S. Griffin.

N. C., Winston-Salem—Carolina Candy Co., capital \$25,000, inctpd. by Nick Tages, Andrew Peters, Clyde Cramer.

Va., Montross—Farmers Packing Co., capital \$10,000, inctpd. with E. B. Hutt, Neenah. Prest.; John Goodridge, Montross, Secy.

Clayworking Plants.

Mo., Kansas City—Coates Brick & Tile Co., capital \$15,000, inctpd. by S. J. Moorhead, W. W. Coates, A. O. Kicksels.

Tenn., Knoxville—Southern Brick Co., capital \$25,000, inctpd. by Reed P. Black, Chas. H. Smith, Leo I. Fanz.

Tex., Houston—Model Brick Co., increased capital to \$30,000.

Coal Mines and Coke Ovens.

Kentucky—Blue Diamond Coal Co., Knoxville, Tenn., reported to have acquired additional coal properties in Kentucky, Tennessee and southwestern Virginia.

Ky., Candill, P. O. Hammond—Big Four Coal Co., purchased by W. J. Raybold and others, Whitesburg, Ky., will increase capacity of plant, also lease and develop additional properties.

Ky., Crech—Big Seam Co., capital \$45,000, inctpd. by C. H. Lewis, J. D. Yarbrough and McKinley York.

Ky., Jeff—Gorman-Mequire Coal Co., will erect tippie in connection with other plant improvements.

Ky., Millstone—A. C. Craft, Jr., and Tilden Wright leased coal lands and will develop.
Mo., Sedalia—Penrod Coal Mining Co., capital \$30,000, inctpd. by V. O. Bay, I. F. Holly, E. H. Milton.

In writing to parties mentioned in this department, it will be of advantage to all concerned if the Manufacturers Record is mentioned.

Mo., Sedalia—I. F. Holly and Virgil Bay, organized company; leased coal mining land near the Pettis-Johnson county line; will develop.

S. C., Florence—Pee Dee Coal Co. incptd. with E. K. Turner, Prest.-Treas.; G. H. Turner, V. P.-Secy.

Va., Pulaski—Clyde Smith leased coal mine properties; will develop.

Va., Richmond—Richmond Coal Mining Co., capital \$25,000, incptd. with Sterling R. Jones, Prest.; Sam Marcus, Secy.

Va., Tazewell—Jewell Ridge Coal Corp., will increase capital to \$500,000.

W. Va., Elkins—Elkins Smokeless Coal Co., capital \$750,000, incptd. by J. F. Bridwell and C. E. Williamson, both Charleston, W. Va.; C. A. Parvin, Chicago, Ill.

W. Va., Huntington — Ramona Coal Co., capital \$100,000, incptd. by C. T. Egri, M. R. Tetman and E. M. Jones.

W. Va., Montgomery—Bell Creek By-Products Co., capital \$50,000, incptd. by J. E. Wilkinson, G. C. Humphreys and W. H. Thomas.

W. Va., Wheeling—Central Coal Mining Co. reported to acquire 800 acres coal land adjacent to their properties; contemplate doubling output, present weekly capacity 1000 tons.

Concrete and Cement Plants.

Tenn., Kingsport—Cinchfield Portland Cement Co., increased capital from \$1,500,000 to \$2,000,000.

Cotton Compresses and Gins.

Ark., West Memphis — Arkansas Cotton Compress Corp. organized by Joseph Newburger, Memphis, Tenn., R. L. Taylor, Gen. Mgr. of Grenada Compress Co., Mr. Cunningham, of Blytheville, Ark. and others has acquired 40-acre tract and will construct \$1,000,000 compress, concrete warehouse, large yards and probably small city on Memphis-Marion highway, about one fourth mile from West Memphis; compress will be of 100,000 bale capacity; concrete and brick construction; will install sprinkler system, etc.

Okla., Claremore—M. C. Fraley of Chelsea, will establish cotton gin.

Drainage Systems.

Ala., Carrollton—Pickens County Commrs. contemplate forming drainage district to reclaim about 20,000 acres land; propose digging 30 mi. canal to carry waste water from lands into Tombigbee river; J. M. Moore, Commr.-elect of Agriculture, Montgomery, Ala., interested in project.

Ark., Texarkana—For full details see Mch. Wanted—Levee Construction.

Mo., Maryville—Skidmore-Maitland Drainage Dist., Commrs., Nodaway Co., will construct $7\frac{1}{2}$ mi. open ditch work; containing 390,000 cu. yds. excavation; approx. cost \$40,175; W. B. Hazen, Engr., 53 Commercial Bldg., St. Joseph, Mo.

Mo., Trenton—Brimson Drainage Dist. Commissioners, Grundy County will construct 11.35 mi. open ditch work; 974,640 cu. yds. excavation; approx. cost \$100,000; W. B. Hazen, Engr., 53 Commercial Bldg., St. Joseph, Mo.

N. C., New Bern—Little Swift Creek Drainage Dist. Commrs., Geo. Green, Chrmn. let contract to Indiana Dredging Co., Royal Centre, Ind. to dredge canals; costing \$185,000 reclaiming 17,856 acres in Beaufort and Craven Counties; B. M. Potter, Engr., New Bern.

Electric Light and Power Plants

Ala., Dadeville—The Alabama Power Co., acquired city electric light plant and will improve.

Ark., Beebe—Beebe City Council granted to Dr. E. H. Abington, Prest. of Citizens Bank, a 50 yr. franchise for electric distributing system.

Ark., McRae—City granted to V. C. Pettie and W. D. Self a 50 yr. franchise for electric distributing system.

Fla., Daytona—For full details see Land Developments.

Ky., Louisville—City, Huston Quin, Mayor, secured Gen. W. L. Sibert of Bowling Green as engineer to decide feasibility of developing water power on Ohio River; part of plan includes raising dam No. 41; recommendations have been made to Government for appropriation of \$7,000,000 for fiscal year of 1923-1924.

Miss., Magee—City plans electric light and water works improvements; Swanson-McGraw, Inc., 704 United Fruit Bldg., New Orleans, La., Consult. Engr.

Mo., Jefferson City—Jefferson City Light, Heat & Power Co., will improve system; will install new boilers, generators, turbines, water and gas mains; will also install equipment to secure water from Missouri River.

Mo., Jefferson City—For full details see Land Developments.

Mo., Rich Hill—For full details see Mch. Wanted—Power House and Equipment.

N. C., Charlotte—Western North Carolina Power Co., increased capital to \$5,500,000.

N. C., Cherryville—For full details see Mch. Wanted—Water Works and Electric Lights.

Okla., Harrah—Oklahoma Gas & Electric Co., J. F. Owens, Oklahoma City, V. P. and Gen. Mgr., has acquired 1000 acres of land about 2 mi. north of Harrah on Harrah Lake and will construct electric light plant, one and one half times size of present plant; will double or triple capacity of lake; construct main building about 300x600 ft.; first and second installations will provide for 15,000 K. W. each; ultimate capacity 50,000 K. W.; it is planned to expend during the next year about \$10,500,000 to include the following: line now being built from Drumright to Covington, 95 miles, \$100,000; line being built from Muskogee to Fort Smith, 100 miles, \$600,000; line from Sallisaw to Heavener, \$100,000; line north from Drumright, to supply Cleveland and Pawnee, \$100,000; distributing systems in several towns heretofore without electric current; rehabilitation of plants taken over, including those at Checotah, Eufaula, Poteau, Heavener, Dewey, Webbers Falls, Gore and Vian.

Okla., Rush Springs—Chickasha Gas & Electric Co. purchased electric light plant owned by Roy Randolph.

Okla., Sand Springs—Sand Springs Power, Light & Water Co. will double capacity of electric light plant during 1923 by installing additional 12,000 K. W. steam turbine generator.

S. C., Camden—Wateree Power Co. increased capital to \$7,500,000.

S. C., Greenwood—Dixie Electric Line Co., organized with R. A. Wash, Prest.; R. A. Ellison, V. P.; M. G. Bowles, Secy.-Treas.

Tenn., Hohenwald—City will install electric power and light system, water works and lay concrete pavements. Address The Mayor.

Tenn., Knoxville — Holston River Power Co., J. R. Paul, Prest., 52 Wall St., New York, contemplates development of 75,000 H. P. on the Holston River, by constructing 3 dams, one at Kingsport, another on south fork of Holston River near Bluff City, third near junction of south fork and the Watauga River.

Tex., Ft. Worth—For full details see Water Works.

Tex., Houston—Houston Lighting & Power Co., Samuel R. Bertram, Jr., V. P. and Gen. Mgr., lately noted to increase capital to \$4,500,000 has 660 ft. x 2200 ft. site on ship channel and will construct electric plant; will expend \$1,000,000 on equipment, including turbine set of 20,000 K. W. capacity; in addition to power plant the company plans to build oil reservoir, tanks, warehouse and other buildings near the wharves improving transportation facilities.

OPPORTUNITIES FOR NEW BUSINESS THROUGH THE

DAILY BULLETIN

Manufacturers or Machinery and Equipment, Dealers in Railroad and Contractors' Supplies, as well as Architects, Contractors and Builders, find it very profitable to follow up the advance news furnished through our DAILY BULLETIN EVERY BUSINESS DAY IN THE YEAR. It is an authoritative, prompt source of information concerning every industrial and railroad undertaking of any consequence, and likewise all important building operations and municipal improvements in the whole South. The opportunity of getting in correspondence with firms that are in the market is afforded by a daily perusal of its columns.

MANUFACTURERS RECORD

BALTIMORE, MD.

In writing to parties mentioned in this department, it will be of advantage to all concerned if the Manufacturers Record is mentioned.

Tex., Spearman—City voted \$14,000 electric light and \$43,000 water bonds. Address The Mayor.

Fertilizer Factories.

Fla., Plant City—S. D. Shore of Sumter, S. C. will establish mixing plant for citrus and vegetable fertilizers.

Ga., Augusta—South Atlantic Fertilizer Co., capital \$15,000, inceptd. R. C. Neely, R. C. Neely, Jr., S. H. Wilcox.

Tenn., Chattanooga—H. A. Scholze Fertilizer & Soap Mfg. Co., H. A. Scholze, Prest. and Gen. Mgr. will expend \$100,000 in construction of addition and installation of equipment, doubling production of plant.

Flour, Feed and Meal Mills.

La., Plaquemine—Teche Rice Milling Co. incorporated with \$100,000 capital; will establish rice and feed mill.

N. C., Winston-Salem—North Liberty Milling Co., capital \$100,000, inceptd. by J. G. Messick, L. J. Messick, W. H. Slate.

Foundry and Machine Plants.

Mo., Kansas City—Kansas City Bolt & Nut Co. reported to make plant extensions.

Tenn., Memphis—W. C. Ellis & Sons' Iron Works, Henry C. Ellis, Secy. and Gen. Mgr., 235-245 S. Front St., has increased capital to \$120,000.

Tex., Corsicana—Home Furnace Co., capital \$25,000, inceptd. by S. B. Robinson, V. A. Crawford, M. S. Caston.

Va., Norfolk—Boiler Repairs, etc.—Atlantic Iron Works, Inc., 712 Water St.; consolidation of Atlantic Iron Works, Inc., and F. E. King Co., Inc.; merging of plants will give additional facilities for mfr. of dust collecting systems, sheet metal work, general machine and boiler repairs, etc.

W. Va., Parkersburg—Blackwood Electric Steel Corp., Alexander Blackwood, Prest.-Mgr. will erect 140x230-ft. fireproof plant, costing \$85,000; install annealing furnaces, crane, grinders, generator, welders, compressors for mfr. of high grade electric steel castings, daily output 25,000 lbs.; mch. bids open Jan. 1; Mills, Rhines, Bellman & Nordhoff, Archts., Toledo, Ohio; Alexander Blackwood, Const. Engr. Lately noted. (See Machinery Wanted—Foundry Equipment.)

W. Va., Wheeling—Nails—Labelle Iron Works, subsidiary of the Wheeling Steel Co. will erect nail plant.

Gas and Oil Enterprises.

Fla., Daytona—For full details see Land Developments.

Fla., St. Petersburg—For full details see Water Works.

Ky., Lexington—Pitt Oil & Gas Co., capital \$300,000, inceptd. by F. E. Courson, Samuel A. Pickering, Samuel J. Gronet.

Ky., Morgantown—Culver Oil & Mineral Co., inceptd. by T. E. Culver, H. C. Culver and others.

La., Westwego—Standard Equipment Co., M. F. Hunt, Prest., 622 Tchoupitoulas St. has contract for complete mechanical installation at plant of Philip W. Babcock interests, including steam power plant and pumping and cooperage equipment; Y. Pitre of Marrero, La. is general contractor for building, now under construction.

Md., Baltimore—Petroleum Export Co., 638 Equitable Bldg., lately noted inceptd. with \$100,000 capital by Walter B. Brooks and others will establish refinery with 1000 bbl. capacity; estimated cost of equipment \$400,000.

Miss., Greenwood—Charles U. Gordon of

Greenville, S. C. and Clifford E. Fox, of Benton Harbor, Mich. has gas franchise and will organize company.

Mo., Jefferson City—For full details see Electric Light and Power Plants.

Okla., Cushing—Orion Oil Co., capital \$50,000, inceptd. by H. M. Foster, I. H. Pringer, R. F. Schooling.

Okla., Cushing—Home Gas Co. will construct two unit plant for mfr. of gasoline from casinghead gas.

Okla., Ogmulgee—Producers Gasoline Co., W. E. Pine, Prest., will build and operate plants for mfr. of natural gasoline from casinghead gas.

Okla., Preston—Hutchinson & Becker of Okmulgee will construct single unit plant.

Okla., Teriton—National Products Co. of Cleveland, will install 3 casinghead units in plant.

Tex., Amarillo—For full details see Mining.

Tex., Amarillo—Biggs Investment Co., capital \$75,000, inceptd. by E. R. Biggs, L. B. Biggs, J. M. Crews.

Tex., Dallas—Dallas-Bradford Oil Co., capital \$40,000, inceptd. by W. A. Forster, A. R. Forster, John A. Phelan.

Tex., Dallas—Scruggs Investment Co., capital \$200,000, inceptd. by G. R. Scruggs, S. B. Scruggs, R. B. Price.

Tex., Freeport—Freeport Asphalt Co. has changed name from Freeport Gas Co.; sales offices, 914 Carter Bldg., Houston; has refinery with daily capacity 8000 bbls. Mexican crude oil, one half of which is refined into asphalts.

Tex., Nacogdoches—Yuba Oil Co., Mrs. Phebe M. Rideout, Prest., purchased majority of holdings of Carolina Oil Co., including refining plant and leases; will enlarge and operate refinery; C. C. Chappell, in charge of operations.

Tex., Vernon—Judd-Sigler Drilling Co., capital \$25,000, inceptd. by O. D. Judd, Lloyd Sigler.

W. Va., Charleston—Superior Oil & Gas Products Co., capital \$250,000, inceptd. by C. E. Goettman, E. P. Stroman, C. L. Short.

Ice and Cold-Storage Plants.

Ala., Gadsden—C. K. Crossfield, West Gadsden, plans building ice factory.

Miss., Meridian—City Ice & Fuel Co., has been purchased by Mrs. Ruby Bostick, will operate.

Tenn., Chattanooga—Atlantic Ice & Coal Corp., B. W. Baker, Prest., plans expending between \$100,000 and \$150,000 on plant improvements, will remodel building and install new mechanical equipment.

Tenn., Memphis—Marshall Mott, 356 Randolph Bldg., reported as interested in establishing 20-ton ice plant.

Tex., El Paso—El Paso Ice & Refrigerating Co., J. C. Peyton, Prest.-Gen. Mgr., Mills St., reported to expend \$50,000 on plant improvements, install modern equipment, to increase daily capacity from 140 to 200 tons; D. I. Davis, Constg. Engr., Chicago, Ill.

Tex., Stamford—Stamford Ice & Refrigerating Co., capital \$45,000, inceptd. by U. E. and J. H. Baker, C. E. Phelps.

Va., Stuart—Stuart Cold Storage Corp., capital \$100,000, chartered with George T. Divers, Prest.; R. Paul Sanford, Secy.

Land Development.

D. C., Washington—Alpha Realty & Investment Co., capital \$50,000, inceptd. by Adam Cokinos, Stephen J. Demas.

Fla., Daytona—Walter C. Hardesty of W. C. Hardesty Realty Co., offices in Bullard Bldg., will develop 350-acre site for town site and construct roads and streets; install water, gas and electric lights, park, etc.

Fla., Daytona Beach—Tobin & Tobin Realty Co., capital \$5000, inceptd. with S. H. Tobin, Prest.; D. B. Bass, V. P.; E. L. Hawkins, Secy.-Treas.

Fla., Jacksonville—Swan Improvement Co., capital \$100,000, inceptd. with I. L. B. Stevens, Prest.; L. E. Mason, V. P. and Treas.; John Lewis, Secy.

Fla., Pensacola—P. H. Shigley of Detroit, Mich., will develop tract of land in Satsuma oranges.

Fla., Sebring—Big Red Water Groves Co., capital \$50,000, organized with Thos. A. Jones, Chicago, prest.; E. O. Douglas, V. P.; W. L. Crews, Secy. and Treas.; will develop 80 acres of citrus land.

Fla., St. Petersburg—For full details see Water Works.

Ky., Louisville—Mutual Realty Co. increased capital to \$150,000.

Md., Baltimore—Bal-Mar Co., Calvert Bldg., inceptd. by Percy H. Goodwin, Albert E. Donaldson, Raymond S. Williams.

Md., Baltimore—P. M. Lander, Inc., 701 Keyser Bldg., capital \$10,000, inceptd. by P. M. W. W., and B. P. Lander.

Mo., Jefferson City—C. W. Thomas will construct tourist park of five acres of land adjoining Forest Hill Addition; will be equipped with stucco shelter house, city water and electric lights.

Mo., St. Louis—Westminster Place Real Estate Co., capital \$9000, inceptd. by F. C. Lake, A. W. Shapleigh, W. M. Bates.

Mo., St. Louis—Planter Realty Co., capital \$2,000,000, inceptd. by J. M. Robertson, T. M. Wall, L. O. Honig.

Mo., St. Louis—South Alabama Land Co., capital \$10,000, inceptd. by H. H. Wefel, Jr., H. H. Maschmeyer, E. H. Hubbard.

N. C., Lenoir—Planix Real Estate Co. of Greensboro, N. C., will develop 84 acres of land for subdivision.

N. C., Oak City—Hines Estate, capital \$100,000, inceptd. by N. C. Hines, Raleigh, N. C.; B. L. Hines, Norfolk, Va. and others.

N. C., Pollocksville—Carolina Realty & Securities Co., capital \$50,000, inceptd. by Annie C. Hughes, G. R. Hughes.

Tenn., Lookout Mountain—Board of Park Commrs., L. D. Miller, Chrmn., considering establishment of park on east brow of mountain.

Tex., Greenville—For full details see Road and Street Construction.

Tex., Highland Park, P. O. Dallas—For full details see Water Works.

Tex., Houston—Brazos Farms of Houston, capital \$100,000, inceptd. by R. E. Goree, F. J. Riordan, T. B. Ketterson.

Tex., Orange—J. E. Harrison, Chrmn. of Committee on Selection of Camp-site for Orange, interested in construction of camp within city limit on Old Spanish Trail; camp will contain 10 acres; will have concrete entrance; contract let for erection of concrete arch; water and light to be furnished by city plants; will let contract in the next 2 weeks for the following equipment; 4 concrete tables, 10'x30"; 8 concrete benches 10'x18"; 2 concrete shower bath houses; concrete fountain; 4 concrete cook stoves (double); concrete refuse burner; 2 concrete closets.

Va., Portsmouth—Bonshaw Corp. of Portsmouth, capital \$15,000, inceptd. with James L. Eckford, Prest.; Jason I. Eckford, Secy.

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Va., Portsmouth—Hatton Point Corp., 601 High St., lately noted inceptd. with \$25,000 capital. L. A. Williams, Prest., will develop 136 acres on Elizabeth River, nr. Hampton Roads, for manufacturing sites; approx. cost \$100,000; plans not completed.

Va., Richmond—Hampton Roads Land Corp., Frank D. Epps, Prest., increased capital to \$80,000.

Va., Richmond—Linbrook Realty Corp., capital \$50,000, inceptd. with Saunders M. Brooks, Prest.; Beverly H. Davis, Secy.

Va., Boyce—Clark County Farmers' Assn., capital \$25,000, inceptd. with R. S. Bryarly, Prest., White Post; C. Vandeventer, Secy.

W. Va., Morgantown—R. O. Wirt Co., capital \$25,000, inceptd. by R. O. Wirt, H. W. Craig, H. L. Stillman.

Lumber Manufacturing.

Ga., Toombsboro—Case-Fowler Lumber Co., Crumps Park, Ga. will erect saw mill on tract owned in the Oconee river swamp, has obtained right of way for railroad leading into timber lands.

Ky., Blackey—J. T. Whitaker has acquired timber lands, will develop.

Ky., Baxter—Baxter Lumber & Supply Co., capital \$10,000, inceptd. by D. E. Jones, London, G.; J. M. Lytle, Manchester, Ky. and others.

Ky., Elizabethtown—Bishop Lumber Co., capital \$20,000, inceptd. by W. W. Nichols, Elizabethtown; A. C. Bishop, Louisville, Ky.; Boyd Monroe, New Castle, Ky.

Ky., Roxana—George Hogg has acquired timber tract along King's creek and Kentucky river; will develop.

Miss., Orvisburg—Nortac Mfg. Co., Poplarville, Miss., have acquired by lease and contract the mill and timber tract of Southern Lumber & Timber Co. containing about 75,000,000 ft.; will develop.

Mo., St. Louis—J. K. Gruner Co., capital \$10,000, inceptd. by J. K. Gruner, T. W. Budde, Gustave Koerner.

N. C., Charlotte—J. A. Abernathy reported to have acquired 650 acres timber land, will develop.

N. C., New Bern—Roper Lumber Co.'s Saw Mill, A. R. Turnbull, Prest., Norfolk, Va., plans rebuilding mill, recently burned.

S. C., Saluda—R. H. Etheredge Lumber Co., will install refuse burner to take care of extra shavings from a Yates A4 machine, capacity of about 75,000 ft. in 24 hrs. (See Machinery Wanted—Burner (Refuse).)

Tex., Houston—Rockwell Lumber Co., change of name from Waxahachie Lumber Co., increased capital to \$150,000.

Tex., Houston—Taylor Lumber Co., has increased capital to \$300,000; formerly H. D. Taylor Lumber Co.

Tex., Houston—Anderson Lumber Co., (lately noted inceptd., capital \$10,000) organized with D. C. Anderson, Prest.; J. F. Bahr, Secy.; J. K. Warren, Mgr.; has planing mill.

Tex., Texarkana—Southern Pine Lumber Co., T. L. Temple, Prest., increased capital from \$1,250,000 to \$5,000,000.

Va., Norfolk—Flynn Lumber Co., capital \$15,000, inceptd. with G. T. Flynn, Prest.; F. S. Lohman, Portsmouth, Secy.

Va., Tazewell—Clineb Valley Lumber Corp., Leon Isaacson, Prest., has increased capital to \$300,000.

W. Va., Charleston—Cherry River Boom & Lumber Co., Walter Briggs, Secy., plans increasing capital from \$3,200,000 to \$4,000,000.

Metal-Working Plants.

Ala., Bessemer—Piston Rings, etc.—Bessemer Metal Products Co., organized with E. J. Jenkins, Prest.; will mfr. complete line of automotive parts including pistons, piston rings, pins, connecting rods, etc.

Mining.

Ala., Collinsville—Iron Ore—David Kanse, Birmingham, Ala., will develop iron ore properties; let contract to J. T. Bartlett for hauling ore; will begin soon to grade roads to property.

Ala., Margerum—Asphalt—Alabama Rock Asphalt Co., Florence, Ala. (lately noted incorporated, capital \$500,000) organized with C. W. Ashcraft, Prest.-Gen. Mgr.; Tyler Calhoun, Secy.-Treas.; will develop about 700 acres asphalt deposits.

Md., Hagerstown—Hagerstown Lime & Chemical Co., lately noted inceptd. with \$30,000, organized with J. S. Myers, Prest., will develop 40 acres of lime marl land; daily output 150 tons of chicken grit; invites mch. bids.

N. C., Leaksville—Granite—Leaksville Granite Co., capital \$10,000, inceptd. by E. B. King, S. W. and L. G. Rainey.

Tex., Amarillo—Zinc—United States Zinc Co., has purchased 40 acres land to erect 5 block smelter, costing approx. \$400,000; surveys being made; smelter will be operated by natural gas from the Amarillo field; Amarillo Oil Co. will lay pipe line to the field.

Va., Richmond—Arvonla-Buckingham Slate Co., Inc., increased capital to \$100,000.

Miscellaneous Construction.

Ala., Montgomery—Dam—S. H. Irelan, receiver for Montgomery Light & Traction Co. reported interested in the rebuilding of the Tallassee dam.

Ark., Texarkana—Miller Levee Dist. No. 2. For full details see Mch. Wanted—Levee Construction.

Tenn., Memphis—For full details see Mch. Wanted—Levee Construction.

Tex., Austin—Highway Lighthouses—Travis County Commrs. Court let contract to the American Gas Accumulator Co., Elizabeth, N. J. for 100 or more highway lighthouses to be installed at dangerous points on Travis County road.

Tex., Electra—Incinerator—City let contract to Superior Garbage Incinerator Co., Dallas, Tex., to build incinerator plant; estimated cost \$7500.

Tex., Lynchburg—Ferry—Harris County Commrs. contemplate construction of ferry; Chester Bryan, County Judge.

Miscellaneous Enterprises.

Ala., Birmingham—Gulf States Lumber Co. organized by Joseph T. Shoaf, of Tuscaloosa, Ala., Robt. W. McDonald and R. Bruce Crenshaw, both of Birmingham.

Fla., Daytona Beach—Daytona Beach Amusement Co., capital \$300,000, inceptd. with Harry D. Fleck, Prest.; Donald P. Fleck, Secy.

Fla., Jacksonville—Grace, the Florist, capital \$25,000, inceptd. with T. B. Grace, Prest.; B. E. Grace, Secy.

Fla., St. Petersburg—Old Tampa Bay Navigation & Construction Co., capital \$20,000, inceptd. with Clarence E. Johnson, Prest.-Treas.; Charles J. Seelman, Secy.

Fla., Tampa—Yellow Cab Co., capital \$25,000, inceptd. with Francis W. Bewsher, Prest.; C. L. Sparkman, Secy.

Ky., Henderson—Hardware—Noris & Lockett Co., capital \$50,000, inceptd. by S. W.

Noris, Joe K. Lockett and James B. Norment.

Ky., Lexington—Signs—Ramsey Sign Service Co., capital \$50,000, inceptd. by James C. and L. H. Ramsey, Louella Morgan.

Ky., Louisville—Baxter Ave. Amusement Co., increased capital to \$50,000.

Ky., Louisville—Printing—Gibbs-Luman Co., J. D. Gibbs, Prest. will erect 3 story and basement, 100x200-ft., reinforced concrete building, fireproof construction; street facades of brick and terra cotta; Arthur Loomis, Archt., 51 Todd Bldg.; bids to be opened in spring of 1923. (Previously noted).

Md., Baltimore—Chesapeake Co., Stewart Bldg., capital \$10,000, inceptd. by John A. Mapes, Holmes M. Barr, Eben J. D. Cross.

Mo., St. Louis—Acme Construction Co., capital \$50,000, inceptd. by O. C. Oehler, H. A. Herchert, W. C. Lampert.

N. C., Asheville—Excavation Co., capital \$100,000, inceptd. \$100,000, inceptd. by H. M. McDowell and J. A. Woodstock, both Asheville; C. S. Reed, Biltmore, N. C.

N. C., Charlotte—General Seating Co., 205 Trust Bldg., organized with Lawton D. Jordan, Prest.; Wayne T. Jervie, Secy.; continue established business. (Lately noted incorporated, capital \$50,000).

Okl., Oklahoma City—Great Western Printing Co., capital \$30,000, inceptd. by Joe Quinn, Joe Sutterthwaite and A. M. Ennis.

Okl., Oklahoma City—Little Theatre Players Co., inceptd. by A. H. Jacoby, A. L. Maultby and Willard Higbee.

Okl., Oklahoma City—Oklahoma Dredging Co., capital \$25,000, inceptd. by Clark H. Hogan, George P. Glaze and others.

Tenn., Memphis—Oriental Laboratories, Inc. increased capital to \$25,000.

Tenn., Nashville—Middle Tennessee Co-operative Dairy Assn., 105 Broad St., contemplates establishing milk plant.

Tex., Big Wells—Livestock—Hoyle & Armstrong Cattle Co., capital \$50,000, inceptd. by J. G. Dutt, C. H. Horle and S. A. Armstrong.

Tex., Dallas—Fuller Construction Co., capital \$25,000, inceptd. by J. G. Fuller, S. D. Mangum and O. F. Wencker.

Tex., Fort Worth—Municipal Excavating Co., capital \$15,000, inceptd. by T. S. Miller, Jr., J. C. Debrun and G. W. Dickerson.

Tex., Houston—Fogle-West Undertaking Co., capital \$30,000, inceptd. by Ray Fogle, J. H. and J. E. West.

Tex., Houston—Southwestern Construction Co., capital \$50,000, inceptd. by C. A. Thanheiser, G. B. Granbury and T. H. Monroe.

Tex., Houston—Bering-Cortez Hardware Co., increased capital to \$500,000.

Tex., San Antonio—Aztec Amusement Co., inceptd. by A. B. de la Garza, P. Martinez and Julie Boytique.

Va., Lynchburg—Hurley Transfer Co., incorporated with D. A. Hurley, Prest.; W. R. Worley, Secy. and Gen. Mgr.

Va., Norfolk—Carolina Shipping Corp., capital \$25,000, chartered with R. A. Jones, Prest.; H. D. Riggins, Secy.

Va., Roanoke—Sibley Advertising Service, capital \$25,000, inceptd. with Sam P. Walker, Prest.; G. C. Sibley, Secy.

W. Va., Raleigh—Raleigh Transfer Co., incorporated by G. P. Starr, R. B. Holmes and C. S. Calfee.

W. Va., Wheeling—Transportation—Wheeling Yellow Cab Co., capital \$10,000, inceptd. by William Church, C. R. Ambrose and Mary Browning.

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Miscellaneous Factories.

D. C., Washington—Capital Ice Cream & Ice Mfg. Co., capital \$100,000, inctpd. by Geo. Sanichas, Adam Kokinos, Harry Kokones.

Ga., Atlanta—City, J. N. Landers, Pur. Agt. receives bids until Dec. 21 for eight story, reinforced concrete loft building for Calhoun Estate and Beck & Gregg Hardware Co.; plans and specifications obtained from Robert Co., Inc., Archts. and Engrs., Red Cross Bldg., Atlanta.

Ga., Atlanta—Patent Mop Wringers, etc.—J. A. Bogges, West Palm Beach, Fla., will establish plant for mfgr. mop wringers and automobile tops.

Ga., Columbus—Soft Drink Syrup—The Rocco Company of America, 938-944 Bay St., Stephen B. Wilson, Vice-Prest., has building and will equip for producing soft drink syrup; install pasteurizers and agitators, and storage tanks. (See Mch. Wanted—Syrup Pasteurizers; Syrup Agitators; Tanks (Storage).)

Ky., Louisville—Regulation Paint Co., capital \$90,000, inctpd. by Clifford Lusky, E. G. Lusky, A. P. Dodd.

Ky., Louisville—Pfeiffer Insecticide Co., has building at Floyd and A Sts.; will establish mfg. plant. F. B. Ayres, Mgr., of Louisville Industrial Foundation can be addressed.

La., Ladel, P. O. Monroe—Monroe-Louisiana Carbon Co., Monroe, will expend \$250,000 in construction of carbon mfg. plant.

La., Monroe—Keystone Carbon Co., capital \$150,000, inctpd. with C. K. Williams, Prest.; J. P. Ehrhart, V. P. both of Easton, Pa. (Lately noted to construct plant).

La., New Orleans—Joseph Sternberg & Co., receives bids until Dec. 18 for construction of addition to plant at Bayou Rd. and Clairborne St.; 2 story; 75x100 ft.; brick and heavy mill construction; cost \$30,000 exclusive of equipment; Weiss & Dreyfus, Maison Blanche Bldg., Archts.

La., New Orleans—Raynaud-Conrad Paint Co., capital \$100,000, inctpd. by Joe Raynaud, C. Carlisle Conrad, Geo. Steele.

Md., Baltimore—Wilbur Electric Co., 16 N. Howard St., inctpd. by Wilbur R. Owens, Marcellus Owens, Warren C. Arnold; to mfgr. radio sets and equipment.

Md., Baltimore—Continental Roofing & Mfg. Co., capital \$50,000, inctpd. by Thomas M. Riangard, Walter B. Harris, Stanley Woodward.

Md., Baltimore—Malts, etc.—Gullford Mfg. Co., 128 S. Calvert St., will erect 3-story fireproof building, N. E. Cor. Eighth St. and Union R. R.; cost about \$40,000; H. G. Epstein, Archt. and Builder.

Md., Baltimore—Lasco Shellac Co., Bush and Severn Sts., capital \$100,000, inctpd. by Louis A. Stabler, H. Pierce Brawner, Edna C. Frank.

Miss., McComb City—Brooms—R. P. McCullough and C. M. Fortinberry will organize company with \$10,000 capital and install additional mch. in present plant.

Mo., Springfield—Bakery—W. H. Durland and Lewis Burnhart interested in establishing bakery.

Mo., St. Louis—Al Urwal Headgear Co., capital \$10,000, inctpd. by Al Urwal, J. T. Cunningham, C. L. Cunningham.

Mo., St. Louis—Greenberg Garment Co., capital \$25,000, inctpd. by Isidor Greenberg, M. M. Raub, Ida Greenberg.

Mo., St. Louis—Cinderella Shoe Co., capital \$10,000, inctpd. by G. A. Clement, O. G. Snipen, R. E. Hammond.

N. C., Asheville—Teague Drug Co., capital

\$50,000, inctpd. by M. F. Teague, R. L. Ellis, N. N. Beadles.

N. C., Charlotte—Loft—H. M. Wade has plans by Lockwood, Greene & Co. for loft building; 4 story; brick and timber; capacity of 100,000 sq. ft. floor space; will accommodate 24 mfg. plants; equipped with 2 freight elevators; will have rear court for auto truck freight business; cost \$200,000.

Okla., Oklahoma City—Master Gasoline Corp., capital \$250,000, inctpd. by Ben H. Mason, J. E. Crowder, C. B. Kendrick.

S. C., Sumter—Ice Cream—L. A. Corning, Prest. & Gen. Mgr. of Butter Cup Ice Cream Co., Hamlet, N. C. will remodel building at S. Harvin St. for ice cream factory.

Tenn., Centerville—Cheese—John P. Ricketts, Hickman County Agricultural Demonstration Agt. interested in establishment of cheese factory.

Tenn., Knoxville—Bowman-Moore Hat Co., E. L. Bowman, Prest.; let contract to Roehl-Gervin Co. for construction of plant at Jackson Ave. and State St.; 7 story; reinforced concrete; Barber & McMurray, Archts.; construction begun.

Tenn., Union City—Brown Shoe Co. will construct plant, R. H. Rust, Prest. of Chamber of Commerce can be addressed.

Tex., Dallas—Beverages—Ly-Nola Co., capital \$150,000, inctpd. by W. J. Lyons, A. G. McAdams, S. A. Leake.

Tex., Dallas—Gibraltar Battery Mfg. Co., capital \$5000, inctpd. by Arthur Stevenson, J. M. Dean, R. E. Beard.

Tex., Greenville—R. A. Moore Leather Co., inctpd. by R. A. Moore, J. G. Dutt, C. H. Hoyle.

Tex., Houston—Texas Bread Co. increased capital to \$100,000.

Tex., Waco—Whistle Bottling Co., capital \$5000, inctpd. by A. T. Jones, S. T. Hamill, C. E. Williams.

Tex., Waco—Lone Star Rubber Co., capital \$10,000, inctpd. by C. A. Prade, C. S. Appel, M. L. Prade.

Va., Petersburg—European-American Tobacco Co., Richmond, Va., contemplating establishing rehandling, drying and storage plant.

Va., Powhatan—Powhatan Cheese Co., Inc., lately noted inctpd. with \$5000 capital, organized with O. L. Brauer, Prest.; L. E. Pettyjohn, Secy.; will construct cheese dairy and ice plant, 20x40 ft.; will open building bids Dec. 15; will install one 500 gal. vat and other equipment for making cheese; open bids Jan. 7. (See Mch. Wanted—Cheese Manufacturing Equipment.)

Va., Roanoke—Graham Nectar Bottling Co., capital \$50,000, inctpd. with T. J. Hughes, Prest.; J. T. Bandy, Secy.

W. Va., Charleston—Cumberland Carbon Co., inctpd. by Geo. E. Thomas, Roswell T. Hapwood, Oscar Nelson.

W. Va., Morgantown—Cowan Baking Co., capital \$50,000, inctpd. by A. B. Cowan, S. A. Bonner, R. D. Anderson.

Motor Cars, Garages, Tires, Etc.

Fla., Orlando—Orange Belt Auto Line, capital \$50,000, inctpd. with A. C. Marshall, Prest.; C. C. Nicholson, Secy.

Ky., Owensboro—Garage—R. E. Rodgers plans building fireproof garage on Frederica St.; approx. cost \$7000.

Md., Baltimore—Automobile Accessories—St. Charles Service Station, Charles St. and Lafayette Ave., inctpd. by Chas. L. Staples, Wm. S. Briddell and Laurence W. Salfner.

Md., Baltimore—H. S. Block of Chandler-Cleveland Automobile Agency, has purchased

buildings at 1007-09 Cathedral St. and will convert into service station.

Miss., Gulfport—Taxi Co., capital \$25,000, inctpd. by F. Stratakos, Gulfport; Mrs. Emma Hubbard and A. L. Austin, both Biloxi, Miss.

Mo., St. Louis—Apex Auto Accessories Co., 415 Chestnut St. (lately noted inctpd. capital \$100,000) organized with Wm. F. Drees, Prest.-Treas.; Edwin H. Kempfer, Secy.

Mo., St. Louis—Schroeder Motor Co., capital \$25,000, inctpd. by G. S. Birdie A. and Gladys Schroeder.

Mo., Wellston—Wellston Auto Sales Co., capital \$20,000, inctpd. by H. H. Shields, A. O. Kratky and F. D. Kinkad.

N. C., Charlotte—Chevrolet Motor Co., Detroit, Mich., reported to establish branch factory, with L. F. Garlock, Mgr., formerly sales Mgr., at Atlanta, Ga.

N. C., Concord—Motor Tire Co. increased capital to \$200,000.

N. C., Siler City—Elder Motor Co., capital \$25,000, inctpd. by Mrs. Dora Elder, Henry Allred and A. Diffy Dorsett.

Okla., Cherokee—S. & S. Motor Co., capital \$10,000, inctpd. by W. S. Scruton, L. R. Smith and H. G. Frizzell.

Tenn., Memphis—Continental Body Co., change of name from Continental Co., increased capital to \$20,000.

Tex., Austin—Filling Station—Gulf Refining Co., Houston, Tex., let contract to C. W. Moore, 609 West 16th St. to erect 60x80-ft. and 54x80-ft. buildings; concrete frame with brick walls; costing \$30,000. (Supercedes recent item.)

Tex., Dallas—White Motor Horse Co., of America, capital \$25,000, inctpd. by Thos. E. White, Harry C. Freeman, J. E. Coaks.

Va., Portsmouth—Wilcox-Brooke Motor Co., capital \$25,000, inctpd. with J. M. Brooke, Prest.; C. A. Wilcox, Secy.

Va., Radford—Radford-Sales Corp., capital \$50,000, inctpd. with W. E. Gilbert, Prest.; R. R. Copenhaver, Secy.; both of East Radford.

Railway Shops, Terminals, Roundhouses, Etc.

Mo., Poplar Bluff—Missouri Pacific R. R. Co., E. A. Hadley, Chief Engr., St. Louis, Mo., will expend \$10,000 on roundhouse, including new metal roof and beams on shop building.

Tex., Tyler—St. Louis Southwestern Ry. Co., W. S. Hanley, Chief Engr., plans installing mch. in shops in connection with its \$5,000,000 improvement program; also plans rehabilitating during next 3 yrs. of the entire line from Ilmo, Mo. to Texarkana, Tex.

Road and Street Construction.

Ala., Anniston—City, Mayor Wilkie, let contract to J. F. Morgan Paving Co., Birmingham, Ala., to pave 11th St. between Wilmer and Quintard Aves.

Ala., Birmingham—City Comsn., let contract to H. N. Bowdry, Birmingham, at \$21,956, to pave Brentwood Place; to East Henning & Co., at \$3685.50 for sidewalks.

Ala., Columbiana—State Highway Comm., Montgomery, Ala., received bids to grade, drain and surface 22.77 mi. road in Shelby County, from Chilton County line to Federal Aid Proj. No. 110, near Jefferson County line as follows:

Sec. A—from Chilton County line to Sta. 605; low bidders, Hancock Bros., Mobile, Ala., at \$365,961.44, for concrete; W. T. Taylor Wilsonville, Ala., at \$363,686.14, for bituminous concrete and concrete base, and at \$342,803.10, for bituminous concrete and stone base; Proj. 99; J. H. Mayer, Div.

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Engr., Birmingham, Ala.
Sec. B.—from Sta. 605 near Saginaw to Sta. 1202-95; low bidders, Hancock Bros., Mobile, Ala., at \$416,783.12 for concrete; W. T. Taylor, Wilsonville, Ala., at \$414,536.49, for bituminous concrete and concrete base; Nichols Construction Co., Atlanta, Ga., at \$388,612.56, for bituminous concrete and stone base; Proj. 99, Sec. B; J. H. Mayer, Div. Engr., Birmingham. (Late-ly noted.)

Ala., Mobile—Mobile County, Board of Revenue and Road Commrs., will receive bids until Dec. 28 for following:

Clay gravel Turner road from John Craft Highway to clay gravel road in Whistler; extend gravel on Culvert St. from Gould to Anderson in Whistler; Holmes St. from Rivers to Prichard Sts., Prichard.

Ala., Montgomery—State Highway Comsn., W. S. Keller, Engr., will receive bids until Dec. 12 to build following:

Federal Aid Proj. No. 1; 21,000 cu. yds. imported gravel surfacing.

Federal Aid Proj. No. 68; 23,000 cu. yds. imported gravel surfacing.

Fla., Daytona—For full details see Land Developments.

Fla., Fort Pierce—State Road Dept., Tallahassee, Fla., let contract to E. P. Maule Paving Co., Ojus, Fla., at \$237,578.37 for 8 mi. Vero-Wabasso road, St. Lucie County; E. H. Collins, County Engr.

Fla., Miami—Dade County Commrs., has let contracts for building and improving following:

21,120 ft Garden road, to H. T. Duval, Miami, at \$11,890; High School farm road, to H. L. Clark, Lemon City, at \$4640; extend old Ave. L; to Sam. Roundtree, at \$13,264; extend old 42nd St.; to Sam. Roundtree, at \$20,379.71; all in 2nd and 3rd Dist. Let contract to D. H. Lehman, Homestead, Fla., at 14¢ cents sq. yd., to oil 83,500 sq. yds. roads.

Fla., Miami—For full details see Mch. Wanted—Paving.

Fla., Palatka—For full details see Mch. Wanted—Road Construction.

Fla., Port Tampa City—City let contract to J. G. Yeats & Co., Port Tampa, at \$13,068, to pave Olivette St. from Plant Ave. to Prescott St. and Prescott St. to end of city pier; 8666 sq. yds. asphalt surface treatment; 3200 lin. ft. curbing; McElroy Engineering Co., Engr., Tampa, Fla. (Late-ly noted.)

Fla., St. Petersburg—For full details see Water Works.

Fla., Sebring—Highlands County Commrs. plans completing 60 mi. State road No. 8 through County, as follows:

Between Polk County line and Lake Annie; 16-ft. 6-in. rock base; slag and asphalt surface.

Lake Annie and Kissimmee River; rock base road.

Lake Annie to Glades County, through Old Venus then to New Venus; 16-ft. roadway; 9-ft. rock base; slag and asphalt surface. Outlet west from Avon Park, to join Hardee County at Wauchula.

Alternative route from main line at De Soto and joining Okeechobee County at Fort Bassenger; marl and clay road.

Lateral road between Sebring and O'Berry's; sand clay and marl; will vote Jan. 23 on \$600,000 bonds.

Fla., Tampa—Hillsborough County Commissioners, G. T. Friend, Chrmn., let contracts for following:

4.78 mi. Seffner-Thonotosassa road; asphalt block; concrete curb; to Warren-Carroll, at \$74,455.98.

6.75 mi. Temple Terrace road; asphalt block;

concrete curb; to Bruen-Sullivan, at \$146,981.38.

14.25 mi. Interbay-Peninsular road; asphalt block; concrete curb; to Cone Bros. at \$331,466.75.

.75 mi. Tampa Bay Blvd.; asphalt block; concrete curb; to Cone Bros., at \$8391.94.

10.90 mi. Plant City—Thonotosassa road; sheet asphalt; to J. G. Yeats Co., at \$135,029.05.

6.65 mi. Midway Road; sheet asphalt; to J. G. Yeats Co., at \$88,845.57.

3.56 mi. Armenia Ave.; asphalt block; concrete curb; to Cone Bros., at \$79,823.30.

2.02 mi. Waters Ave.; asphalt block; concrete curb; to Bruen-Sullivan, at \$45,156.68.

6 mi. Lake Magalene road; sheet asphalt; to J. G. Yeats Co., at \$72,795.

27 mi. Ruskin road; asphalt block; concrete curb; to Warren-Carroll, at \$647,859.08.

2.35 mi. Wimauma road; asphalt block; concrete curb; to Warren-Carroll, at \$37,006.80; all contractors of Tampa.

To McDonald Construction Co., Orlando, Fla., following contracts:

14.74 mi. Hopewell-Tampa road; asphaltic concrete; at \$260,397.57.

17.11 mi. Plant City Picnic road; sheet asphalt; at \$245,824.

15.13 mi. Citrus Park road; asphaltic concrete; at \$263,515.60.

11.16 mi. Lithia road; sheet asphalt; at \$144,761.82.

Ga., Atlanta—Fulton County Commrs. will receive bids to improve Piedmont Ave. from East Hunter St. to Piedmont Driving Club.

Georgia—State Highway Dept., Atlanta, Ga., let contracts for following projects:

293—Wilkes County, 10.15 mi. road from Washington to Lexington; to W. C. Hill, Abbeville, S. C., at \$37,342.06.

314—Wilkes County, 6.7 mi. road from Tignall to Little River; to Nicholas Construction Co., Atlanta, Ga., at \$35,945.33.

295—Wilkes County, 7.2 mi. road from Washington to Thomson; to Stanley & Slinger, Lafayette, Ala., at \$35,063.84.

315—Wilkes County, 10.6 mi. road from Washington to Lincoln; to Oglesby & Stark, Elberton, Ga., at \$71,467.86.

279—Cook County, 6.85 mi. road between Adel and Valdosta; to L. H. Smith, Elberton, Ga., at \$77,676.10.

316—Early County, .63 mi. road from Proj. 196 to Proj. 264; concrete paving; to Davis Construction Co., Macon, Ga., at \$17,964.98.

Ga., Blakely—City let contract to Davis Construction Co., Macon, Ga., to pave all business and large part of residential streets. Address The Mayor.

Ga., Fort Valley—A. C. Riley, Jr., Mayor, plans expending \$72,000 to pave business streets.

Ga., Moultrie—Colquitt County plans expanding \$60,000 to extend Moultrie-Norman Park road to Tift County line. Address County Commrs.

Kentucky—State Highway Comsn., Frankfort, will improve 7 roads. For full details see Mch. Wanted—Road Construction.

Ky., Brownsville—State Highway Comsn., Frankfort, Ky., let contract to F. G. Correll & Sons, Bowling Green, Ky., at \$44,600 for 20,000 tons crushed rock for 8 mi. road in Edmonson County.

Ky., Earlington—For full details see Mch. Wanted—Paving and Sewer Construction.

Ky., West Liberty—Morgan County will build roads; voted \$220,000 bonds. Address County Commrs.

Louisiana—Louisiana Highway Comsn., Raymond Bldg., Baton Rouge, La., let contracts for following:

3 mi. gravel road on Jefferson Highway, from Melville to Port Allen; to Maggio-Attelo, East Baton Rouge, at \$24,652.76.

18.5 mi. Tallulah-St. Joseph Highway; to S. A. Gano, New Orleans, La., at \$220,756.67.

6.21 mi. Greensburgh-Fluker Highway; to Kentwood Gravel Co., Kentwood, La., at \$67,659.38.

Will receive bids until Dec. 28 to gravel surface 18.08 mi. highway in Madison County, between Tallulah and Delhi; Federal Aid Proj.

Louisiana—Louisiana Highway Comsn., Raymond Bldg., Baton Rouge, received bids for following projects:

352—Franklin Parish, 9.8 mi. Winnsboro-Rayville road; W. H. Harris, at \$50,277.65, low bidder.

334—Terrebonne and La Fourche Parishes, 4.97 mi. on Morgan City-Thibodeaux Highway, from Chacahoula to Brule Settlement; Plead Construction Co., at \$141,658.69, low bidder.

105—Pointe Coupee Parish, Melville-Port Allen Highway.

Sec. A, 7.8 mi. from Ravenwood to Road Dist. No. 2 line; Charles and H. A. Circuit, at \$22,243.43, low bidder.

Sec. B, 11.48 mi. Road Dist. No. 2 to Iberville Parish line; S. A. Gano, New Orleans, La., at \$30,061.66, low bidder. (Late-ly noted.)

La., Monroe—Louisiana Highway Comsn., Raymond Bldg., Baton Rouge, let contract to Meyer-Greenwald Construction Co., Meridian, Miss., at \$136,390.32, to grade, construct drainage structures and gravel surface 16.7 mi. Monroe-Rushton link of Dixie Highway; Ouachita Parish, Proj. 114, Sec. B. (Late-ly noted.)

Miss., Biloxi—City plans paving main streets; contemplates voting on \$500,000 bonds. Address The Mayor.

Miss., Brandon—State Highway Dept., Jackson, Miss., plans building gravel road from Pelahatchee to Jackson, Rankin County.

Miss., Vicksburg—Warren County let contract to J. W. Noble, Fayette, Miss., at \$28,633.35 for 9.35 mi. Scenic Highway from Haynes Bluff to Yazoo County line.

Will soon receive bids for 8 mi. of same road; E. B. Lentz, County Highway Engr.

Miss., Vicksburg—J. J. Hayes, Mayor, let contract to V. T. Zollinger to lay uniform concrete sidewalks on Crawford St., between Washington and Mulberry Sts.; P. M. Garvey, City Engr. (Late-ly noted.)

Miss., Vicksburg—For full details see Mch. Wanted—Paving.

Missouri—State Highway Dept., Jefferson City, Mo., plans grading and constructing drainage structures on following.

Andrain County, .189 mi. State road from Mexico to Moberly; build approach fills to bridge over Young's Creek; Federal Aid Proj. No. 194; Harry D. Griffith, Div. Engr., Jefferson City.

Ballinger County, 25.2 mi. State road from Fredericktown to Marble Hill; gravel pavement; Federal Aid Proj. No. 202.

Ballinger County, 16 mi. State road from Fredericktown to Marble Hill Advance; gravel pavement; Federal Aid Proj. No. 208; Frank B. Newton, Div. Engr., Sikeston, Mo.

Buchanan County, 9.02 mi. State road from Pike's Peak Ocean to Ocean Highway; concrete surfacing; Federal Aid Proj. 205; N. R. Sack, Div. Engr., Ballinger Bldg., St. Joseph, Mo.

Butler County, 9.9 mi. State road from Cairo to Poplar Bluff; concrete surfacing; Federal Aid Proj. No. 204.

Butler County, 19 mi. State road from Poplar

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Bluff to Jefferson City; gravel surfacing; Federal Aid Proj. No. 207; Frank B. Newton, Div. Engr., Sikeston, Mo.

Callaway County, 18 mi. State road from Jefferson City to Fulton, through New Bloomfield Special Road Dist.; gravel pavement; Federal Aid Proj. No. 97.

Callaway County, 15.7 mi. State road on National Old Trails road, from St. Louis to Kansas City, through Calwood-Williamsburg Special Road Dist.; gravel and macadam surfacing; Federal Aid Proj. No. 144; R. W. Hodson, Div. Engr., Jefferson City.

Cedar County, 5.93 mi. State road from Nevada to Springfield; Federal Aid Proj. No. 192.

Cedar County, 2.25 mi. State road from Eldorado Springs to Osceola, Eldorado Spgs. Special Road Dist.; gravel pavement; Federal Aid Proj. No. 215; Ray Dunlap, Div. Engr., Frisco Bldg., Joplin, Mo.

Dade County, 7.96 mi. State road from Greenfield to Stockton; Federal Aid Proj. No. 212; Ray Dunlap, Div. Engr., Frisco Bldg., Joplin.

Dunklin County, 7 mi. State road from Kennett to Hoyt and Caruthersville; gravel surfacing; Federal Aid Proj. No. 212; A. B. Newton, Div. Engr., Sikeston.

Gentry County, 8.17 mi. State road from Stanberry to Albany; gravel surfacing; Federal Aid Proj. No. 37B.

Gentry County, 10.46 mi. State road from Stanberry to Albany; gravel surfacing; Federal Aid Proj. No. 57B; N. R. Sack, Div. Engr., Ballinger Bldg., St. Joseph, Mo.

Henry County, 6.6 mi. State road from Clinton to Warrenburg; Federal Aid Proj. No. 127.

Henry County, 8.1 mi. State road from Clinton to Sedalia; gravel pavement; Federal Aid Proj. No. 133A; A. C. Lingley, Div. Engr., Reliance Bldg., Kansas City, Mo.

Howell County, 16.76 mi. State road from Willow Springs to Mountain View; gravel pavement; Federal Aid Proj. No. 138; J. H. Long, Div. Engr., Willow Springs, Mo.

Iron County, 28.5 mi. State road from Ironton to Piedmont; gravel pavement; Federal Aid Proj. No. 105-D.

Iron County, 25 mi. State road from Iron Mountain to Salem, point on Poplar Bluff-St. Louis Highway, 1 mi. north of Belle View; gravel pavement; Federal Aid Proj. No. 193; S. M. Rudder, Div. Engr., Bristol Bldg., Webster Groves, Mo.

Jackson County, 2.1 mi. State road on Washington Park Blvd., from Kansas City north of Van Horn road; Federal Aid Proj. No. 61; A. C. Lingley, Div. Engr., Reliance Bldg., Kansas City.

Jefferson County, 2.55 mi. State road on Kings Highway; Herculanum slag; Federal Aid Proj. No. 185; S. M. Rudder, Div. Engr., Bristol, Webster Groves.

Laclede County, 8.78 mi. State road on Old Wire road through Lebanon Special Road Dist.; gravel pavement; Federal Aid Proj. No. 80-A; H. P. Mobberly, Div. Engr., Woodruff Bldg., Springfield, Mo.

Madison County, 23.03 mi. State road from Fredericktown to Patton to Ironton; gravel surfacing; Federal Aid Proj. No. 203; F. B. Newton, Div. Engr., Sikeston.

Montgomery County, 6 mi. State road from New Florence to McKittick, through McKittick Special Road Dist.; gravel surfacing; Federal Aid Proj. No. 141; R. W. Hodson, Div. Engr., Jefferson City.

Newton County, 17.4 mi. State road from Oklahoma to St. Louis, through Granby Special Road Dist.; gravel surfacing; Federal Aid Proj. No. 155; Ray Dunlap, Div. Engr., Frisco Bldg., Joplin.

Pettis County, 10.8 mi. State road from

Sedalia to Marshall, through Longwood Special Road Dist.; waterbound macadam; Federal Aid Proj. No. 131; A. C. Lingley, Div. Engr., Reliance Bldg., Kansas City.

Phelps County, 15.70 mi. State road from Rolla to Houston; Federal Aid Proj. No. 110; H. P. Mobberly, Div. Engr., Woodruff Bldg., Springfield.

Platte County, State road on Jefferson Highway from north line of Parkville Special Road Dist., to east line of Platte County; brick on concrete base; Federal Aid Proj. No. 48; A. O. Longley, Div. Engr., Reliance Bldg., Kansas City.

Ripley County, 11.9 mi. State road from Doniphan to Grandin, to Jefferson City, through Jordan Special Road Dist.; Federal Aid Proj. No. 200.

Ripley County, 3 mi. State road from Doniphan to Grandin; gravel surfacing; Federal Aid Proj. No. 201.

Ripley County, 4.4 mi. State road from Poplar Bluff to Doniphan, through Logans Creek Special Road Dist.; Federal Aid Proj. No. 206.

Ripley County, 5.1 mi. State road from Poplar Bluff to Doniphan, to Alton, through Fairdealing Special Road Dist.; Federal Aid Proj. No. 216; Frank B. Newton, Div. Engr., Sikeston.

St. Clair County, 7.72 mi. State road from Clinton to Springfield; gravel pavement; Federal Aid Proj. No. 100-B; Ray Dunlap, Div. Engr., Joplin.

Saline County, 8 mi. State road on National Old Trails road, from Malta Bend to Marshall, through Marshall Special Road Dist.; asphaltic macadam; Federal Aid Proj. No. 16; A. C. Lingley, Div. Engr., Reliance Bldg., Kansas City.

Stoddard County, 13.5 mi. State road from Fredericktown to Dexter, to Kennett; gravel pavement; Federal Aid Proj. No. 211; F. B. Newton, Div. Engr., Sikeston.

Stone County, 49 mi. State road from Crane, Galena, Reeds Springs to Blue Eye; Federal Aid Proj. No. 161-B; H. P. Mobberly, Div. Engr., Woodruff Bldg., Springfield.

Taney County, 4.02 mi. State road from Forsyth to Branson, Mount James Special Road Dist.; Federal Aid Proj. No. 189.

Taney County, 4.09 mi. State road from Forsyth to Branson, through Branson to Kirbyville Special Road Dist.; Federal Aid Proj. No. 191; H. P. Mobberly, Div. Engr., Woodruff Bldg., Springfield.

Washington County, 8.24 mi. State road from Potosi to Steelville; Federal Aid Proj. No. 160-A; S. M. Rudder, Div. Engr., Bristol Bldg., Webster Groves, Mo.

Mo., Charleston—State Highway Dept., Jefferson City, Mo., let contract to Roy C. Williams, Wyatt, Mo., at \$370,000 for following:

14 mi. road south of Anniston.

10 mi. road south of Charleston; each having 9-ft. concrete pavement on one side, and 7-ft. gravel pavement on other.

Mo., Hermann—For full details see Mch. Wanted—Paving.

Mo., Huntsville—State Highway Dept., Jefferson City, Mo. For full details see Mch. Wanted—Road Construction.

Mo., Kirksville—State Highway Dept., Jefferson City, Mo., will probably let contract soon to build 2 mi. 16-ft. concrete state road between Novinger and River Bridge.

Mo., New Madrid—State Highway Dept., Jefferson City, Mo., plans expending \$50,000 to hard-surface 5 mi. Malden-Risco road, New Madrid County; 16-ft. gravel; will let contract soon.

Mo., Ozark—State Highway Dept., Jefferson City, Mo., let contract to Plummer Construction Co., Springfield, Mo., at \$60,000 for 2½-mi. State road from Lawrence County

line, south and east to Billings; Christian Company; bituminous macadam; 1-in. curb. (Lately noted).

Mo., Poplar Bluff—State Highway Dept., Jefferson City, Mo., let contract for 10 mi. 18-ft. concrete road from Poplar Bluff to Flisk, to Robinson, Ellis & Taylor, Poplar Bluff at \$329,000.

Mo., Savannah—State Highway Dept., Jefferson City, Mo., let contract to J. E. Sampson, St. Joseph, Mo., at \$15,356.07 to grade road on Jefferson Highway, east of Savannah.

N. C., Maiden—Town. For full details see Mch. Wanted—Paving.

Okla., Muskogee—Muskogee County plans hard surfacing Jefferson Highway from north line of Muskogee County through Wagoner County, to point near Choteau, Mayes County. Will build following roads:

From new free bridge across Arkansas River east of Muskogee to Jefferson Highway.

From Warner to Briartown Bridge; to be continued to Stigler. Address County Engr.

Okla., Muskogee—R. P. Harrison, City Mgr., let contract to Otto V. Martin, Fort Smith, Ark., at \$17,633.30 to pave Elgin Ave., from 24th to 28th Sts.

South Carolina—State Highway Dept., Columbia, S. C., plans inviting bids soon for following:

Chester County, 9 mi. top soil road from Catawba River to Richburg.

York County, 2.87 mi. hard surfaced road from Catawba River to Fort Mill, \$80,000.

Williamsburg County, 12.2 mi. road from point near Kingstree to Santee Bridge, \$35,500.

S. C., Aiken—Aiken County Comms., J. W. Ashhurst, Jr., Clk., Box 274, let contract to C. E. Teague, Augusta, Ga., for 14,709 mi. sand clay road from Orangeburg County line through Sta. 780-00; Federal Aid Proj. 182A; J. H. Shuler, Engr., Aiken. (Lately noted.)

S. C., Allendale—Allendale County Supvs. For full details see Mch. Wanted—Road and Bridge Construction.

Tenn., Chattanooga—State Highway Comm., Nashville, Tenn., let contract to Hamilton County, at \$100,000 to build 17-ft. concrete road from Stringer's Ridge to connect with Dayton Pike, 400 ft. beyond Valdeau, on Red Bank Branch; also to construct 20-ft. concrete bridge, to replace old iron bridge; E. G. Murrell, County Engr.; State and Federal Government, each, pays one-third.

Tenn., Hohenwald—For full details see Electric Light and Power Plants.

Tenn., Memphis—S. Malkin, has contract to lay 40,000 sq. ft. gravel driveways at Pidgeon-Thomas Iron Co.'s plant, South Memphis.

Tenn., Trenton—For full details see Mch. Wanted—Road Construction.

Tex., Abilene—State Highway Dept., Austin, Tex., approved plans for 11.32 mi. 16-ft. gravel road on State Highway No. 7, Taylor County, from intersection of State Highway No. 30 to Coleman County line; \$66,867; D. G. Hill, County Judge; W. A. Riney, County Engr.

Tex., Angleton—Brazoria County, Road Dist. No. 20, E. N. Gustafson, Engr., plans 13.82 mi. 16-ft. gravel road on State Highways No. 19 and 19-A; \$156,000; C. D. Jessup, County Judge.

Tex., Austin—Ch. Engr., U. S. Bureau of Public Roads, Washington, D. C., approved plans for 3.2 mi. 16-ft. gravel road on State Highway No. 20, between Austin and Manor; Travis County, Federal Aid Proj. No. 200; \$53,665; Geo. S. Matthews, County Judge; O. Leonard, County Engr.

Tex., Bay City—Matagorda County will

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build Matagorda-Gulf-Wadsworth road; voted \$50,000 bonds; J. F. Perry, County Judge.

Tex., Beaumont — State Highway Dept., Austin, Tex., approved plans for following: 8.72 mi. 18-ft. concrete road in Jefferson County, from Amelia west; \$397,500.

6.81 mi. 18-ft. concrete road on State Highway No. 3, Jefferson County, from Liberty County east; \$334,350; J. B. Peek, County Judge; A. C. Love, County Engr.

Tex., Brady—McCulloch County, E. J. Adkins, County Judge, plans improving Puget Sound to Gulf Highway, and other roads; will vote Dec. 28 on \$450,000 bonds.

Tex., Cameron—Milam County plans improving State Highway No. 43, Dist. No. 29; \$40,000; State Highway Comsn., granted \$20,000 Federal aid; Jeff T. Kemp, County Judge; A. F. Mitchell, County Engr.

Tex., Canyon—Randall County plans improving State Highway No. 33; \$12,000 State Aid. Address County Judge.

Tex., Conroe—Montgomery County plans expending \$160,000 to build State Highway No. 19; State Highway Comsn., granted \$70,000 aid; W. H. Love, County Judge.

Tex., Fort Worth—Tarrant County Comms. Court, W. E. Yancey, County Judge, let contract to General Construction Co., 403 Cotton Exchange Bldg., Fort Worth, at \$4862, to surface $\frac{1}{2}$ -mi. on Frey Ave., Riverside, from 1st Ave. to Grapevine cardinal. (Lately noted.)

Tex., Fort Worth—City Comsn. plans paving W. Hattie St., from S. Main to Jennings Ave.; W. 6th St. between Throckmorton and Burnet St. Will receive bids soon to pave Tulsa Way, Watson and Owasso Sts.

Tex., Fort Worth—For full details see Water Work.

Tex., Greenville—City will repair streets, extend water and sewer systems, establish park; will vote Dec. 30 on \$150,000 bonds. Address The Mayor.

Tex., Hempstead—Walker County plans 1 mi. State Highway No. 32, through Bedias Creek Bottom; \$15,255.08; contemplate using convict labor; A. T. McKinney, County Judge.

Tex., Highland Park, P. O. Dallas—For full details see Water Works.

Tex., Hondo—For full details see Mch. Wanted—Road Construction.

Tex., Houston—City plans expending \$36,000 to lay 2-in. asphalt topping on 2 mi. Outer Belt Drive at Herman Park.

Tex., Houston—For full details see Bridges, Culverts, Viaducts.

Tex., Houston—City. For full details see Mch. Wanted—Paving and Sewer Construction.

Tex., Jefferson — Marion County, E. B. Lewis, County Judge, plans following improvements:

Surface State Highway No. 8, through County; bituminous topping.

Build 21.75 mi. State Highway No. 35-B; State Highway Comsn., granted aid; T. B. Warden, County Engr.

Tex., Kaufman—Kaufman County, Terrell Road Dist., will improve highways; voted \$55,000 bonds; W. P. Williams, County Judge. (Lately noted.)

Tex., Lagrange — Fayette County, J. P. Ehlinger, County Judge, let contract to W. T. Hutto & Sons, Gonzales, Tex., at \$69,825.09, to grade and gravel surface 12.8 mi. State Highway No. 3-B; A. Schlafl, County Engr. (Lately noted.)

Tex., Lufkin—Angelina County, John F. Robinson, County Judge, plans 15 mi. Jim Hogg Highway, from Lufkin to Cherokee

County line; gravel surface; bituminous topping; \$275,900; federal aid; G. R. Abney, County Engr.

Tex., Mason—Mason County plans completing Puget Sound-to-Gulf Highway north of Mason; State Highway Comsn., granted \$7500 additional aid; J. T. Banks, County Judge; Joe Gresham, County Engr.

Tex., Nacogdoches—City plans paving and repaving main streets; will vote Dec. 23 on \$225,000 bonds. Address The Mayor.

Tex., San Angelo—Tom Green County will improve 3 highways. For full details see Mch. Wanted—Road Construction.

Tex., San Angelo—Ch. Engr., U. S. Bureau of Public Roads, Washington, D. C., approved revised plans for 11.13 mi. 18-ft. gravel bituminous road, on State Highway No. 4, Tom Green County; \$23,164.80, additional federal aid; J. T. Mathison, County Judge; Gibb Gilchrist, Engr.

Tex., Sinton—San Patricio County plans building State Highway No. 12, from Gregory to Aransas Pass; State Highway Comsn., granted \$32,000 federal aid; J. F. Houts, County Judge, Sinton; A. C. Pancoast, County Engr., Beeville, Tex.

Tex., Wichita Falls—Wichita County, J. M. Isbell, County Engr., will receive bids until Jan. 8 for 5 mi. gravel surfacing on Park-Jonesdale road; 15,000 cu. yds. crushed conglomerate gravel.

Va., Chatham—Pittsylvania County Board of Supvrs., J. J. Whitehead, Chrmn., let contract to J. D. Battership, Virginia, Va., at \$25,000, for 6.7 mi. soil road from Gretna to Pittsville; J. S. Carter, Engr. (Lately noted.)

Va., Chesterfield—Chesterfield County, Bd. of Supvrs., plans expending \$4400 to pave road from bridge in Ettricks to top of hill at Eanes' stores.

Va., Fort Myer Heights—Arlington County Good Roads Assn., interested in new roads in County and will petition Judge Brent to set date for special election to vote on \$573,000 bonds.

Va., Martinsville—State Highway Dept., H. G. Shirley, Chrmn., Richmond, Va., will receive bids until Dec. 14 to improve 8 mi. road in Henry County, from point on River Road toward Bachelor's Hall; concrete; \$200,000 has been allocated.

W. Va., Welch—State Road Comsn., Charleston, W. Va. For full details see Mch. Wanted—Road Construction.

Sewer Construction.

Ala., Birmingham—City let contract to H. N. Bowdry, Birmingham for construction of sewer.

Ark., Ft. Smith—City let contract to Stewart & Forsgreen, Ft. Smith for extension to sewer system; cost about \$14,000; W. H. Evans, Ft. Smith, Engr. in Charge. (Lately noted.)

Fla., Bradentown—Board of Public Works will soon call for bids for construction of sanitary sewer on Polk St. (Lately noted to vote Dec. 19 on \$4000 bonds).

Fla., Daytona—For full details see Land Developments.

Fla., Jacksonville—W. E. Sheddan, City Engr., recommended construction of sanitary sewers in portions of Riverside; will soon call for bids.

Fla., Miami—For full details see Mch. Wanted—Sewer Construction.

Fla., St. Petersburg—For full details see Water Works.

Ga., East Point—For full details see Water Works.

Ky., Earlington—For full details see Mch. Wanted—Paving and Sewer Construction.

Md., Baltimore—For full details see Mch. Wanted—Sewers.

Miss., Crystal Springs—City voted \$15,000 bonds for installing sewer system in business district. Address The Mayor. (Lately noted.)

Miss., Vicksburg—For full details see Mch. Wanted—Sewer Castings and Construction.

Mo., Excelsior Springs—For full details see Mch. Wanted—Sewer Construction.

Mo., Kirksville—City let contract to S. L. Eggert for construction of sewer in District, No. 119.

N. C., Kings Mountain—For full details see Water Works.

S. C., Clover—For full details see Mch. Wanted—Sewerage and Water Works.

S. C., Dillon—For full details see Water Works.

S. C., Florence—For full details see Water Works.

Tex., Fort Worth—For full details see Water Works.

Tex., Greenville—For full details see Road and Street Construction.

Tex., Houston—For full details see Mch. Wanted—Paving and Sewer Construction.

Tex., Nocona—City, W. J. Naples, Clk. will vote Dec. 20 on \$50,000 bonds. (Lately noted.)

Tex., Wortham—Wortham Sewer Co., capital \$20,000, ineptd. by S. L. Cox, R. B. Hincks, L. E. Powell.

Shipbuilding Plants.

Fla., Miami—Pelsang Boat Works, re-organized with Roy C. Wright, Prest.; Gus Muller, Sr., Treas.; Gus Muller, Jr., Secy.; E. S. Thibault, Supt.; new company has taken over plant, will re-equip and complete every department for building of boats and installing of motors in addition to repairing same; mch. and equipment now being purchased.

N. C., Charlotte—Disappearing Propeller Boat Co., Buffalo, N. Y., reported to establish distributing office; company mfrs. motor boats, capacity from 7 to 9 passengers.

Telephone Systems.

Ark., Conway—Southwestern Bell Telephone Co., S. A. Lane, Mgr., plans rebuilding plant and changing from magneto to common battery system.

Fla., Sarasota—Peninsular Telephone Co., W. G. Brorein, Prest., Tampa, Fla., will establish automatic telephone system.

Ky., Bowling Green—Bowling Green Home Telephone & Telegraph Co., capital \$125,000, ineptd. by Philip S. Pogue, William M. Brown and Charles E. Archer.

Mo., St. Louis—Southwestern Bell Telephone Co., let contract to Murch Bros. Construction Co., 1156 Railway Exchange Bldg. to erect 100x200-ft. reinforced concrete, fireproof, warehouse building; will install boilers and elevator; I. R. Timlin, Archt. (See Machinery Wanted—Boilers; Elevator.)

Textile Mills.

Ga., Athens—Star Thread Mills let contract to Wm. J. Miller, for construction of cotton mill; 61x107 ft.; 2 stories and basement; Roberts & Co., Archt. (See Mch. Wanted—Building Materials (Mill).)

N. C., Asheville—Asheville Knitting Mills, capital \$50,000 ineptd. by W. Y. Frazier, and R. E. Frazier both of Asheville, H. G. Alexander, Greensboro, N. C.

The Appleton Mill of Lowell, Mass., reported to plan establishing mill in the South.

In writing to parties mentioned in this department, it will be of advantage to all concerned if the Manufacturers Record is mentioned.

N. C., Cramerton—Cramerton Mills, Inc., change of name from Mays Mills, Inc., Stuart W. Cramer, Prest. increased capital to \$3,000,000; will construct weaving plant for production of fine and fancy cloths, will install 2000 looms for utilizing fine combed yarns produced by the 60,000 spindle spinning mill, now in operation. (Lately noted).

N. C., Charlotte—Southern Spindle & Flyer Co., Wm. H. Monty, Prest. increased capital to \$115,000.

N. C., Gastonia—Ragam Spinning Co., capital \$500,000, inceptd. by G. W. Ragan, R. L. and S. P. Stowe of Belmont; will erect 10,000 spindle mill.

N. C., Gastonia—Groves Mills, Inc., H. H. Groves, Secy. and Treas., 225 Fifth Ave., New York City, will construct plant for mfr. of fine combed yarn; brick and steel; 700,000 sq. ft.; install 15,000 spindles; cost \$75,000; will open building bids Dec. 15; J. H. Mays, Charlotte, N. C., Archt-Engr. (Lately noted).

N. C., Lexington—Dacotah Cotton Mills, C. A. Hunt, Jr., Prest and Gen. Mgr. will increase capital to \$1,000,000.

N. C., Mt. Airy—Alpine Woolen Mills, capital \$50,000, inceptd. with R. H. Whitehead Burlington, Prest.; Blanche G. Lindsay, V. P.; W. E. Lindsay, Secy. and Mgr.; purchased Alpine Mills, having daily capacity of 250 lbs. of slasher-cloth yarn. (Lately noted).

N. C., Rockingham—Entwistle Mfg. Co., Wm. Entwistle, Prest. will construct building, 450x125 ft.; brick; Robert & Co., Archt., Atlanta, Ga.; T. C. Thompson Bros., Contr., Charlotte, N. C.

S. C., Clifton—Clifton Mfg. Co., J. C. Evans, Prest., will vote in Dec. on increasing capital to \$2,500,000.

S. C., Florence—B. S. Meeks and T. B. Young interested in establishment of cotton mill.

Tenn., Chattanooga—Dixie Spinning Mills, Carter Lupton, Prest., let contract for machinery for first unit of mill, now under construction, to H. and B. American Machine Co., of Pawtucket, R. I.; Whitin Machine Works of Whitinsville, Mass., was given contract for combers; approx. cost \$500,000; construction of the second unit to contain 10,000 spindles, will begin upon completion of first units; combined units will have 24,000 spindles and cost about \$14,000. (Previously noted.)

Tenn., Chattanooga—Signal Knitting Mills increased capital.

Tenn., French Broad—Burnett Knitting Mills, organized with \$50,000 capital stock, inceptd. by Tate B. Powell and others. (See Mch. Wanted—Hosiery Plant; Textile Machinery).

Tenn., Hohenwald—Pinewood Knitting Mills, A. W. Lucas of Waverly, representative, will install knitting mill.

Tenn., Jackson—T. G. Hughes, Edward Mercer and Wm. Holland will erect 2 story hosiery mill.

Water Works.

Fla., Daytona—For full details see Land Developments.

Mo., Jefferson City—For full details See Land Developments.

Fla., Ft. Pierce—For full details See Mch. Wanted—Pump (Electrically Driven).

Fla., Marianna—G. M. Thomas and others will construct dam across Chipola River 1½ mi. north of Marianna; develop 2000 H. P.

Fla., St. Petersburg—City voted \$1,037,000 bonds for improvements, including \$10,000 for paving portion of Fifth St.; \$60,000 for widening Beach Drive; \$125,000 for purchase of land and construction of incinerator; \$297,

000 for drainage of certain districts; \$79,000 for constructing bridges; \$40,000 for indoor playground; \$160,000 for extension of water mains; \$50,000 for extension of gas mains. (Address The Mayor. (Lately noted).

Ga., East Point—City voted \$75,000 bonds for water works and sewerage system. Address The Mayor.

Miss., Biloxi—City, R. W. Webb, Mayor let following contracts for construction of water works system:

Chambers & Bowers, Hammond, La., at \$3300 for construction of concrete reservoir. Pitts. Des Moines Steel Co., Dallas, Texas at \$5540 for steel tower and tank. Southern Jobbers Supply Co., New Orleans, La., at \$3386 for motor driven fire pumps; National Cast Iron Pipe Co., Birmingham, Ala. at \$26,462 for pipes and special, steel pipe; A. B. Hayden, \$2039 for fittings; Columbia Iron Works, Chattanooga, Tenn., at \$2972 for hydrants valves and boxes; S. A. Carnes, R. F. D. No. 1, Biloxi, at \$8237 for 12 ft. water main and at \$7576 for laying 16 ft. water main. Plans and supervision by Swanson-McGraw, Inc., Engrs., United Fruit Bldg., New Orleans.

Miss., Magee—For full details see Electric Light and Power Plants.

Mo., Jefferson City—For full details see Electric Light and Power Plants.

Mo., Mountain Grove—City will improve water system, votes Dec. 12 on \$15,000 bond issue; John A. Denais, Mayor. Lately noted. (See Mch. Wanted—Engine; Pump (Air Lift)).

N. C., Albemarle—Town will extend water work system and construct 2 buildings, brick and concrete, 25x30 ft.; 1,000,000 gal. daily capacity; will construct reinforced concrete coagulating basin, 35x80x12 ft.; cost \$40,000; date of opening construction bids not decided; Gilbert C. White, Engr., Durham, N. C. (Lately noted).

N. C., Cherryville—For full details see Mch. Wanted—Water Works and Electric Lights.

N. C., Kings Mountain—City let contract at \$59,768.76 to Guion & Withers of Gastonia, N. C., for construction of 500,000 gal. reservoir, reinforced concrete, and water and sewer line extension. (Lately noted.)

N. C., Mooresville—Town will construct new plant; brick and concrete, 44x37, 2 story; 720,000 gal. daily capacity; will install water driven centrifugal pumps; will construct 500,000 gal. concrete reservoir; reinforced coagulating basin 30x50x12 ft.; also plan to construct 5 mi. of 12 in. cast iron pipe line; Gilbert C. White, Engr., Durham, N. C. (Lately noted).

Okla., Skiatook—City, L. O. Maxwell, Mayor will expend \$44,000 in extensions to water and sewer systems; date of opening bids not decided. (See Mch. Wanted—Tile (Sewer): Pipe (Cast Iron)).

Okla., Tulsa—Lock Joint Pipe Co., East Orange, N. J. has sub-contract under Walbridge-Aldinger Co., Detroit, Mich. for making and laying 54 mi. of reinforced concrete pipe for Spavinaw Water Project. (Contract recently noted let to Walbridge-Aldinger.)

S. C., Dillon—City will extend and enlarge water works and sewer system; voted \$15,000 sewer bonds and \$35,000 water works. Address The Mayor. (Lately noted receiving bids for construction).

S. C., Florence—City will extend, improve and enlarge water works system, sewerage and storm drainage; voted \$350,000 bonds. Address The Mayor.

Tenn., Hohenwald—For full details see Electric Light and Power Plants.

Tenn., Memphis—Memphis Artesian Water Dept. let the following contracts for erection and equipment of pumping station on North Parkway; contract No. 7 main building and part of the equipment and all outside work to Gauger-Lorsmo Co., St. Paul, Minn., at \$474, 815; Contract No. 8, for coal and ash handling systems to Link-Belt Co., 300 W. 39th St., Chicago, Ill., at \$26,800; Contract No. 9, for secondary pumping units, to Worthington Pump & Mch. Corp., 115 Broadway, New York, at \$8700; Contract No. 10, for engines, generators and switchboard to Chase Engine & Mfg. Co. of Memphis and Mattoon, Ill., at \$22,272;

Fuller & McClintock, Engrs., Produce Exchange Bldg., Kansas City, Mo.; Jones & Furbringer, Archts., Porter Bldg., Memphis. (Lately noted having let contract to D. D. Thomas, Memphis, for foundation work and construction of reservoir.)

Tenn., Spring City—City has let contracts to Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa. and to Chattanooga Boiler & Tank Co., Chattanooga, Tenn.; will lay new pipe line and improve pumping station, filter, etc., water works system.

Tex., Austin—City, Walter L. Eyres, Chrmn. of Water and Light Dept. let contract at \$21,100 to T. A. M. Lockett Co. of Houston, Tex., for installation of 725 H. P. boiler and 3 steam superheaters in boiler room at power house. (Lately noted).

Tex., Bowie—Cry, J. M. Chancellor, Mayor will vote Dec. 22 on \$20,000 bonds.

Tex., Elgin—City will improve water works; voted \$40,000 bonds. Address the Mayor. (Lately noted).

Tex., Elgin—City will improve water works; voted \$40,000 bonds. Address The Mayor. (Lately noted).

Tex., Ft. Worth—City, J. C. Lord, Water Comsn. will probably vote Dec. 23 on \$3,000,000 bonds for water, sewer, light and street improvements. (Lately noted).

Tex., Greenville—For full details see Road and Street Construction.

Tex., Highland Park, P. O., Dallas—City, H. R. Davis, Mayor, will improve water supply, street paving and construct parks; will vote on \$250,000 bonds.

Tex., Spearman—For full details see Electric Light and Power Plants.

Tex., Uvalde—Uvalde County votes Dec. 30 on \$2,000,000 reservoir bonds. Address County Comms.

Va., Galax—Town let contract to McArthur & Bennett, Roanoke, Va., for construction of 40x60 ft. concrete filter plant with daily capacity 500,000 gal. extension of mains; will install motor driven centrifugal pump, cost \$4000; erect 150,000 gal. concrete reservoir; will expend about \$35,000; Carolina Engineering Co., Engrs., Wilmington, N. C. (Lately noted.)

Woodworking Plant.

Ark., Fort Smith—Furniture—Ward Furniture Mfg. Co., 200 North 1st St. has under construction 168-ft. addition to plant, giving total floor space of 160,000 sq. ft. mch. for finishing of walnut.

Ark., Black Rock—Coffey & Sons, reported to erect 50x150-ft. building, enlarging plant, doubling capacity; specializes in mfr. of wagon parts.

Fla., Bradentown—Bradentown Novelty Co., lately noted inceptd. with \$10,000 capital, organized with H. E. Jones, Preat.; Arnot Wadsworth, Secy.; will construct plant of corrugated iron 47x50-ft. for mfr. of mill work for buildings; will install woodworking

meby.; construction by own forces. (See Meby. Wanted—Woodworking Equipment).

Md., Salisbury—Shingles, etc.—Eastern Shore Construction Co., capital \$100,000, incptd. by Wm. H. Gaskill, Leroy H. Brewington and Richard H. Hodgson.

Mo., Kansas City—Forrester Box Co., capital \$60,000, incptd. by B. E. Nace, W. B. and D. B. Forrester.

N. C., Asheville — Furniture — Sterchi Brothers, Knoxville, Tenn. have acquired 4 story building, will remodel, install passenger and freight elevator, etc.; total cost about \$150,000.

Va., Bristol—Furniture — Lincoln Furniture Mfg. Co., Inc., C. C. Lincoln, Sr., Prest.; Marion, Va. (lately noted incptd., capital \$500,000) will erect 150x500-ft., steel, fireproof construction building; has equipment for mfr. of bedroom furniture; all individual motor driven woodworking meby. (See Machinery Wanted—Power Plant.)

Va., Clarksville—Wagons—C. H. Russel & Son, Inc., re-organized with Arthur D. Russell, Prest.; Wm. H. Russell, Jr., V. P.; Wm. H. Russell, Sr., Secy.-Treas.; has plant, equipped for mfr. of farm and lumber wagons. (See Machinery Wanted—Axle (Wagon) Gaining Machine.)

W. Va., Kenova — Flooring — Morgan Brothers Lumber Co., T. F. Morgan, Prest.-Mgr. let contract to Thos. F. Morgan Concrete Products Co., Huntington, W. Va. to erect 40x150-ft. main flooring mill and 22x160-ft. dry kiln; cement block walls with composition roof; costing \$7500; install P. B. Yates flooring machine, matchers, grinders, edger, trim saws, all motor driven; flooring meby. purchased; costing \$15,000; will later install equipment for interior trimmings and mfr. of casings and doors. (Lately noted.)

W. Va., Richwood—Wooden Ware—Steele-Wallace Corp., capital \$1750,000, re-organized with H. H. Steele, Prest.-Gen. Mgr., Richwood; H. D. Whitelaw, Secy.-Treas., Escanaba, Mich.; consolidation of Fulton Mfg. Co., Richwood and Escanaba Mfg. Co., Escanaba, Mich.; Michigan plant will continue operation with A. L. Judson, in charge; Richwood plant with O. A. Lucas, Gen. Mgr.; main office will probably be located in New York.

Ky., Mayfield—Building owned by D. L. Dowdy and occupied by Mayfield National Guard, Toony Coal Co. and West End Motor Co.; loss \$5000.

Md., Baltimore—Frederick Obrecht & Son's warehouse, 1123 Light St.

Md., Midland—Georges Creek Coal Co.'s tipple; loss not estimated.

Mo., Afton—Holekamp Lumber Co.'s office building and stock, loss \$25,000; Fred W. Holekamp, Prest. of company.

Mo., Camden—Knights of Pythias building; loss \$10,000.

Mo., Columbia—Joe W. Carter's residence north of Columbia; loss \$12,000.

Mo., Gilmore—Farmers' Elevator; loss \$12,000.

Mo., Kansas City—Building at 621 Garfield Ave. owned by Jacob Bold, 525 Delaware St.

Mo., Kansas City—Doric Theater. Address The Manager.

Mo., Maryville—John Shonley's residence; loss \$8000.

Mo., Springfield—Judge B. J. Diemer's residence; loss \$10,000.

N. C., Badin—Tallassee Power Co.'s barn N. C., Fairmount—J. A. Small's residence, Route 1; J. C. Regan's residence in south section.

N. C., Goldsboro—Jno. R. Handley's building; loss \$40,000.

N. C., Greensboro—Dwellings occupied by Ike A. Crabtree and T. A. Webster, 405-07 Schenck St.

N. C., New Bern—New Bern Collegiate Institute; loss \$15,000.

N. C., Spray—Spray Mercantile Co.'s building; loss \$75,000.

N. C., Wake Forest—Wilson & Daniel's garage, store and small dwelling; loss \$20,000.

Okla., Muskogee—St. Louis, San Francisco Ry. Co.'s roundhouse, estimated loss \$25,000; F. G. Jonah, Chief Engr. of company, St. Louis, Mo.

S. C., Abbeville—R. Tolbert's barn on Abbeville-Greenwood Rd. near Abbeville.

S. C., Anderson—J. Richard Jones' store; Harold L. McGill's residence.

S. C., Bannockburn—Consolidated School; loss \$15,000. Address School Board.

S. C., Chester—Thos. Bolware's residence at Adgers.

S. C., Columbia—Methodist parsonage, address Rev. R. C. Griffith; dwellings owned by John Gregory Estate and occupied by Sam J. Doyle and Joe Fulmer; loss \$9000.

S. C., Pelzer — School building (address School Board); Pelzer Co.'s moving picture theater; loss \$15,000.

S. C., Tradesville—E. B. and Edw. Funderburk's store.

S. C., Waterloo—E. V. Golding's store and warehouse; loss \$20,000.

Tenn., Covington—Illinois Central R. R.'s depot and freight house; F. L. Thompson, Ch. Engr., Chicago.

Tenn., Nashville—Donaldson Apartments, 24th and West End Aves.; owned by Dr. Irving Simon; loss \$10,000.

Tenn., Nashville—Howard Dye's residence, 1500 Cedar Lane, Belmont Hghts.; loss \$16,000.

Tex., Branchville — Planters' Mercantile Co.'s gin; loss \$15,000.

Tex., Cumby—J. B. Lewis & Co.'s store; S. D. Greaves's building; Cumby State Bank; loss \$35,000.

Tex., Gainesville—Mrs. W. J. Scott's residence on E. Scott St.; loss \$15,000.

Va., Augusta Springs—Tannery of Consolidated Leather Co. of Philadelphia, Pa.; loss \$250,000.

Va., Dublin—Barn and granary owned by Governor E. Lee Trinkle, W. S. Trinkle and Clarence L. Trinkle; loss \$10,000.

W. Va., Charleston—Garage, owned by F. D. Barron; loss \$100,000.

W. Va., Sutton—Sutton Grocery & Milling Co., Duffield Bros., Jas. M. Morrison, G. O. Baker, Lombard & Carter, Fred Lorentz, F. E. Skidmore, Holcomb & Holcomb, Electric Shoe Shop, William Fisher's buildings; loss \$100,000.

BUILDING NEWS

BUILDINGS PROPOSED

Apartment Houses.

D. C., Washington—S. S. Gruver, Union Trust Bldg., will erect \$45,000 building, 1618 S. St.; N. W.; 3 stories; 20x71 ft.; brick; Geo. T. Santmeyer, Archt., 1340 Eye St., N. W.; owner builders; construction begun.

D. C., Washington—C. D. Hood, care Lawrence P. Johnston, Archt., 301 Homer Bldg., will erect brick building, Olive Ave. near 28th St., N. W.; 4 stories and basement; 44x90 ft.; 20 suites.

D. C., Washington—Jos. Randall, Woodward Bldg., will erect \$175,000 building, 19th St., N. W.; 5 stories and basement; fireproof; brick; 33 suites; Harvey H. Warwick, Archt., 1108 16th St., N. W.

Fla., Miami—Mrs. Chas. G. Schumacher, Washington, D. C., will erect \$40,000 building, 9th St. and Palm Ave., Hialeah; concrete and stucco; 30 rooms with bath and 6 apartments; general dining room 20x68 ft. Address Jas. H. Bright, Miami.

Md., Baltimore—Owners' Realty Co., Chas. W. Hurst, Prest., 2 E. Lexington St., will remodel 6-story Brexton Hotel, Park Ave. and Chase St.; 22 apartments, offices on first floor

and 4 stores in basement; Fredk. E. Beall, Archt., 306 St. Paul St. (Lately noted).

Mo., Kansas City—C. A. Jones will erect ten buildings, N. E. and N. W. corners 38th and Summit Sts.; 6-apartment flats and 12-apartment kitchenettes.

Mo., Kansas City—Chas. E. Phillips will erect number of 6-apartment flats and 12-apartment kitchenettes, both sides Summit St. between 38th St. and Valentine Rd.

Mo., Kansas City—Quality Builders, Inc., will erect six 5-apartment buildings, two 12-apartment flats and two 30-apartment kitchenettes, 37th and Summit Sts.

S. C., Greenville—Mrs. A. A. Gates will remodel residence, 117 Richardson St., for apartments; brick veneer.

Tex., Austin—Mrs. Norma N. Tenison, Dallas, plans 2-story duplex building, Brazos and 14th Sts.; \$10,000; servant's house, sun parlor and garage for each suite; C. P. Sites, Archt., Dallas.

Tex., Dallas—W. T. Chrisman will erect \$16,000 building, 1306-08 N. Beckley St.; 20 rooms; 8 suites; brick veneer.

Tex., Dallas—Kean & Crofford, 226 Slaughter

FIRE DAMAGE

Ala., Collinsville—Methodist Church. Address The Pastor.

Ark., Jonesboro—Jonesboro Mattress Co.'s plant.

Fla., Manatee—Packing plant, owned by Sloan Fruit Co., Tampa; loss \$20,000.

Ga., Atlanta—L. N. Huff, Puffer Lippencott Mfg. Co., J. P. Womack & Sons, Southern Hardware & Supply Co. and Southern Hardware Corp.'s buildings; loss \$35,000.

Ga., Cedar Grove—Methodist Church. Address The Pastor.

Ga., Elberton—M. E. Maxwell's building; loss \$30,000.

Ga., Elberton—Herndon Building; loss \$100,000. Address The Owner.

Ga., Dawson—H. A. Petty's ginnery, seed-house, fertilizer and tank houses; loss \$10,650.

Ga., Macon—Roy W. Crockett's residence, 1098 Ridge Ave., Ingleside; loss \$15,000.

Ga., Montezuma—H. S. Odom's residence on plantation near Montezuma owned by Max Cohen, New York.

Ga., Savannah—Louis Brooks' store, 355 W. Broad St.

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ter Bldg., will erect 3-story building, Peak and Gaston Sts.; brick; about \$125,000; 108x49 ft.; concrete and hardwood floors; concrete foundation; built-up roof; 18 suites; F. J. Woerner & Co., Archts.; owner builds. (Lately noted).

Tex., Houston—Swedman & Page will erect \$14,250 building, 812 Branard St.; 20 rooms; 4 suites; brick veneer; garages.

Mo., Jefferson City—H. H. Miller will erect 3-story efficiency apartment building, McCarty and Washington Sts.

Association and Fraternal

Ark., El Dorado—El Dorado Carpenters' Union plans \$25,000 building; 2 stories and basement; brick; 2 ground floors for business; auditorium to seat 800, kitchen, etc. on second floor.

Ga., Savannah—Young Women's Christian Assn. will erect building; Henrik Wallin and Arthur Comer, Archts., 23 Abercorn St.; R. J. Whaley, low bidder at \$122,000. (Lately noted.)

Ky., Jeff.—Gorman-Meguire Coal Co. will erect Y. M. C. A. (See Dwellings).

Miss., Meridian—Hamasa Temple, A. F. & A. M., I. M. Moody, Chrmn. Bldg. Comm., will erect \$150,000 to \$200,000 mosque.

N. C., Hickory—Blue Lodge, Knights Templar and Commandery, A. F. & A. M., plan temple. Address Geo. R. Wooten.

N. C., High Point—Chamber of Commerce Board of Directors, Fred N. Tate and W. E. Snow, members Y. M. C. A. Comm., plan Y. M. C. A. building.

N. C., Wilmington—Salvation Army, W. L. Price, Ensign, will erect \$15,000 home, 215 S. Front St.; 2 stories and basement; auditorium; baths; James B. Lynch, Archt.

Tex., Austin—Scottish Rite Masons plan \$500,000 Cathedral.

Tex., Austin—Trades Council, P. C. Heflin, Chrmn. Bldg. Comm., plans labor temple.

Tex., San Antonio—Bexar Lodge of Perfection No. 9, Scottish Rite Masons, will erect Cathedral; 160x249 ft.; 110 ft. high; ground and auditorium floors; fireproof; steel frame; stone facing; Barrett specification roof with promenade tile decking; marble, tile, cement and hardwood floors; combination steam heating and ventilating plant; Herbert M. Greene Co., Archt., North Texas Bldg., Dallas; Ralph H. Cameron, Supvg. Archt., P. O. Box 1063, San Antonio; steel frame, foundation and first floors were constructed by owner; contracts awarded for terra cotta, cut stone, brick, tile and concrete materials; Jay DePuy, low bidder to complete building at \$663,984, and \$814,000 including sub-contracts; other low bids as follows: McNair Bros., plumbing, \$32,345; A.H. Shafer, heating and ventilating, \$48,933; Martin Wright, electrical work, \$46,725. (Lately noted.)

Va., Richmond—Richmond Lodge No. 45, B. P. O. E., Robt. J. Bass, Exalted Ruler, will purchase and remodel Jefferson Club property, Allen Ave. and Grace St.

Bank and Office.

Ala., Greenville—First National Bank will remodel and enlarge building; \$30,000 to \$50,000.

Ark., Blytheville—First National Bank will erect building, Main and 2nd Sts.

Fla., Miami—Bank of Bay Biscayne, Jas. H. Gilman, Prest., plans to erect \$150,000 unit of building, Flagler St. and Miami Ave.

Ky., Blackey—Dr. G. D. Ison will erect \$10,000 office and business building; contract at once.

Ky., Lexington—Guaranty Bank & Trust Co. will erect 8-story bank and office building, Upper and Short Sts.; \$250,000.

Md., Baltimore—Edw. O'Mara and Mathias C. Angelmier, 120-24 New Amsterdam Bldg., purchased 4-story building, 814 Park Ave., and will remodel; offices on first 2 floors, bachelor apartments above; telephone exchange; \$15,000; John Freund, Archt., 1307 St. Paul St.

Md., Havre de Grace—Citizens' National Bank will erect additions; \$15,000; Theo Wells Pietsch, Archt., American Bldg.

Va., Martinsville—American Dining Room Furniture Co., A. D. Witten, Prest., plans office building. (See Dwellings.)

Va., Richmond—Imperial Tobacco Co. will erect 3-story office building, 5th and Franklin Sts.; \$100,000; Neff & Thompson, Archts., Seaboard Bank Bldg., Norfolk.

W. Va., Charleston—Kanawha Investment Co. will erect 8-story office building, State and Summer Sts.; about \$40,000; 170x161 ft.; 8 stories on Summers St. and 3 on State St.; fireproof; steel and concrete; brick and terra cotta fronts; 12 stories; Mills, Millsbaugh & Carmichael, Archts. (Previously noted).

Churches.

Okla., McAlester—Phillips Memorial M. E. Church, South, O. P. Williams, Secy., Bldg. Comm., will erect \$100,000 building; Jewell Hicks, Archt., Oklahoma City; M. Williamson, Constr. Supvr., Muskogee.

Miss., Jackson—First Baptist Church plans \$250,000 building. Address The Pastor.

Miss., Jackson—Second Presbyterian Church plans \$150,000 building; site not selected. Address The Pastor.

Mo., Chillicothe—Christian Church will erect building. Address The Pastor.

S. C., Cheddar (P. O. Belton)—Cedar Grove Baptist Church, Rev. M. M. McCuen, will erect \$10,000 to \$12,000 building; brick veneer; construction begun.

S. C., Columbia—Trinity Episcopal Church will erect \$90,000 parish house, Satterlee Hall site; brick and stucco; auditorium, gymnasium with showers, kitchen, etc.; Hobart B. Upjohn, Archt., Grand Central Terminal, New York.

S. C., Greenville—Pendleton St. Baptist Church, Charlton W. Estes, Supt., will erect addition to Sunday school building.

Tenn., Covington—First Presbyterian Church, W. S. Mayes, Chrmn. Bldg. Comm., will erect \$50,000 building, Main and Church Sts.

Tenn., Memphis—First Baptist Church, John W. McCall, Chrmn. Bldg. Comm., will erect \$75,000 Sunday school addition, Linden and Lauderdale Sts.; 3 stories; fireproof enclosed stairway; automatic doors; cut stone front, balance pressed brick; Jones & Furbringer, Archts. (Previously noted).

Tex., Fort Worth—Hemphill Heights Methodist Church, Rev. R. O. Sory, Pastor, will erect 2 stories to basement unit already completed; \$30,000; auditorium to seat 600, Sunday school rooms, etc.

Tex., Kerrville—First Presbyterian Church will erect building. Address The Pastor.

Va., Bristol—State St. Methodist Church plans building. Address The Pastor.

Va., Charlottesville—First Baptist Church will erect 4-story Sunday school building; \$75,000; 84x105 ft.; wood and concrete floors; concrete foundation; composition roof; 6 assemblies, total capacity 1850; Herbert L. Cain, Archt., 12 N. 9th St., Richmond. (Previously noted).

Va., Norfolk—Park Place Methodist

Church, Rev. Guy H. Newbury, Pastor, will erect \$75,000 addition for educational and social center; Newton W. Diehl, Archt., New Monroe Bldg.

W. Va., Sutton—Methodist Episcopal Church, South, is reported to erect native stone church and parsonage, Main and Second Sts. Address The Pastor.

City and County.

Fla., Bradentown—Grandstand and Bleachers—City, L. L. Hine, Clerk, City Council, will erect grandstand and bleachers at city ball park.

Ky., Louisville—Home—City and Jefferson County will erect children's home at Ormsby Station; ultimate plans call for 30 buildings; about \$1,000,000; fireproof; Arthur Loomis, Archt.

N. C., Nashville—Home—Nash County will erect home on 25-acre site near Nashville. Address County Commrs.

Tex., Houston—Stable—City, Mr. Waugh and Mr. Halverson, City Commrs., will erect city stable in western section; accommodate about 50 men, 26 mules and street repairing equipment.

Tex., Temple—Auditorium—City, H. J. Graesser, City Mgr., plans to convert municipal theatre building into public auditorium.

Dwellings.

Ark., Jonesboro—Chas. Grossman will erect \$20,000 residence; 1 story, attic and basement; matt faced brick; stone trim; hardwood floors; brick terrace, walk and steps; tiled baths; built-in features in breakfast room; sun parlor; heating plant, cold storage and laundry in basement; garage in rear; Estes W. Mann, Archt., Memphis, Tenn.

D. C., Washington—V. T. H. Bien, 3118 11th St., N. W., will erect 5 dwellings, 14th St. Road, N. W.; \$75,000; 2 stories and basement; 20x30 ft.; brick; Sonneman & Justeman, Archts., Davidson Bldg.; owner builds.

D. C., Washington—M. Darr, care B. Stanley Simmons, Archt., Dist. National Bank Bldg., will erect \$30,000 Colonial residence, Rittenhouse St., N. W.; 2 stories; 40x55 ft.; brick and stone.

D. C., Washington—H. R. Howenstein, 1314 F. St., N. W., will erect 3 dwellings, 1222-26 I St., S. E.; 2 stories; brick; 16x45 ft.; \$24,000; L. T. Williams, Archt., 1389 F St., N. W.; owner builds; construction begun. (Lately noted).

D. C., Washington—James Martin, 1333 S. Capital St., will erect \$35,000 residence, 3401 13th St., N. W.; 2 stories and cellar; 20x36 ft.; brick; E. S. Simmons, Archt., Dist. National Bank Bldg.; owner builds.

D. C., Washington—Middaugh & Shannon, Woodward Bldg., will erect 3 dwellings, 2903-09 32nd St., N. W.; 2 stories and basement; 40x35 ft.; brick; Geo. T. Santmyer, Archt., Maryland Bldg.; owner builds.

D. C., Washington—W. C. & A. N. Miller, Union Trust Bldg., will erect 6 dwellings, 19th and A Sts., S. E.; \$51,000; 2 stories and basement; 19x31 ft.; brick; also \$30,000 dwelling, 38th and Jacelyn Sts., N. W.; 2 stories and basement; 23x51 ft.; frame and stucco; owner builds.

Fla., Miami—Geo. E. Merrick will erect 50 dwellings, Coral Gables, in addition to number already under construction; 1 and 2 stories; native rock and cement, tile and stucco; H. Geo. Fink and Hampton & Reimert, Archts.

Ga., Atlanta—Hugh Richardson is reported to erect residence, Pace's Ferry Rd., near Hemphill Ave.; tennis courts, golf courses, swimming pools, lakes, etc.

In writing to parties mentioned in this department, it will be of advantage to all concerned if the Manufacturers Record is mentioned.

Ky., David—Dudley Coal Co. will erect 10 miners houses and store; contract at once.

Ky., Jeff—Meams-Haskins Coal Corp. will erect 150 miners' houses at Carr's Fork; contract let in 2 weeks. Address R. F. Haskins.

Ky., Jeff—Gorman-Mequire Coal Co. will erect 25 miners' houses, coal tippie, store and Y. M. C. A.; contract at once.

Ky., Sergeant—Imperial Elkhorn Coal Co. will erect 10 miners' houses and coal bin; cost \$10,000; contract at once.

Ky., Vleco—Montgomery Creek Coal Co. will erect 50 miners' dwellings; contract at once.

Md., Baltimore—Minor C. K. Jones, Rogers Ave. and South Bend Rd., Mt. Washington, will erect 2½-story stone and stucco residence, Charles St. and St. Martin Rd.; E. L. Palmer, Jr., Archt., 513 N. Charles St.

Md., Baltimore—Mrs. Norman C. Keys will erect 2½-story brick residence, Millbrook Rd. near St. Paul St.; Edw. L. Palmer, Archt., 513 N. Charles St.

Md., Baltimore—A. Merriman Casey, 406 Bretton Pl., will erect \$12,000 residence, Rugby Rd. near Overhill Rd., Roland Park; 2½ stories; frame.

Md., Baltimore—Park Heights Manor Development Co., M. S. Meyerhoff, Prest., 2911 Norfolk Ave., will erect \$3600 dwelling, south side Glen Ave. near Maple Ave.; \$6000 dwelling, N. E. Cor. Manhattan and Bland Aves.; \$3000 dwelling, S. E. Cor. Maple and Midwood Ave.; all frame.

Md., Baltimore—Cityco Realty Co., 2 E. Lexington St., will erect 23 dwellings, west side Woodberry Ave. near Pimlico Circle; \$60,000; 2 stories; brick.

Md., Baltimore—H. Webster Cooke, 36 Gunther Bldg., will erect 9 dwellings, 1909-16 W. 31st St.; 2½ stories; brick; one 24.5x40 ft. and eight, 23.6x40 ft.; \$80,000.

Md., Baltimore—Edw. C. Esslinger, Belvidere and Park Heights Ave., will erect 3 dwellings, S. E. side Belvidere Ave. near Park Heights Ave.; \$12,000; 2 stories; brick.

Md., Baltimore—J. Elmer Weishelt, 8 Light St., will erect 6 bungalows, north and south sides Hollen Rd. near York Rd.; \$22,000; 2 stories; frame.

Md., Baltimore—City Real Estate Co., 11 E. Fayette St., will erect 3 one-story frame bungalows, east side Richards Ave. and 3 on west side, near Southern Ave.; \$20,000.

Md., Baltimore—Dr. Floyd W. Ketron, 1107 St. Paul St., will erect frame residence, underwood Rd.; \$17,000 including mechanical equipment; 27x54 ft.; concrete, wood and pine floors; stone foundation; 2½ stories; slate roof; vapor system heat; electric lights; Thos. Machen, Archt., Fidelity Bldg.

Md., Baltimore—Welsh Construction Co., 11 E. Fayette St., will erect 23 dwellings, 1506-24 and 1501-25 N. Payson St.; \$60,000; 2 stories; brick.

Md., Baltimore—James Keelty, 1123 Poplar Grove St., will erect 4 dwellings, N. E. cor. Grantley St. and Harlem Ave.; 15x40 ft.; \$8000; also 6 dwellings on N. W. corner; \$12,000; 20x34 ft.; all 2 stories; brick; slag roofs; steam heat; F. E. Beall, Archt., 306 St. Paul St.; owner builds.

Md., Baltimore—Patrick Kelly, 1101 E. 20th St., will erect 2 two-story brick cottages, N. E. side Edmondson Ave. near North Bend, La.; \$12,000; also 2 on S. E. side; 30x40 ft.; steam heat; F. E. Beall, Archt., 306 St. Paul St. (Lately noted in part).

Md., Baltimore—Overlea Realty Co., Belmar Ave. and Belair Rd., will erect 4 dwellings, south side Raspe Ave., west of Mannington Ave.; 1½ stories; frame; three. 28x28 ft. and one 28x36 ft.; furnace heat; \$12,000; R. C. Brockmeyer, Archt., 1905 N. Milton Ave.; owner builds. (Lately noted).

Md., Baltimore—Howard P. Skinner, 404 Evesham Ave., will erect 4 one-story frame bungalows, 373-79 Evesham Ave.; \$17,000.

Md., Baltimore—Edmund W. Winchester, 1014 Lexington Bldg., will erect \$10,000 duplex residence and garage, 3409 Hilton St.; frame; 2 stories; 33x38 ft.; oak and pine floors; stone foundation; slate roof; hot water heat; interior tile; plans and construction by owner. (Lately noted).

Mo., Kansas City—L. L. Marcell, Prest. White Eagle Oil & Refining Co., will erect Italian type residence, Overhill Rd., Colonial Court, Mission Hills; 120 ft. long; brick; terra cotta trim; tile roof; Keene & Simpson, Archts.

Mo., Kansas City—Earl C. Hallar Construction Co. will erect dwellings, 416 to 422 E. 61st Terrace; \$4000 each; also \$7500 dwelling, 6420 Wornall Rd.

Mo., Kansas City—Russell Land Co. will erect 52 dwellings, east side Cleveland Ave. between 33rd and 34th Sts.; \$6000 to \$7500 each.

Mo., Kansas City—Charles Phillips will erect 4 dwellings, 101-03-05-07 E. 40th St.; \$60,000.

Mo., St. Louis—Morris Corn, Prop., Claridge and Plaza Hotels, will erect 10-room residence, Lindell Dr. near De Ballviere Ave.

N. C., Asheville—E. A. Jackson will erect 6-room dwelling, Wells Ave., West Asheville; \$4000; \$10,000 dwelling, Macon Ave., Grove Park; and additions on Macon Ave. to cost \$1000.

N. C., Oak City—Hines Estate, Inc., S. E. Hines, Secy.-Treas.-Engr., will erect dwelling houses and barns on 375-acre tract; \$10,000.

N. C., Paw Creek—Thrift Manufacturing Co., will erect 24 employees' houses; 4 rooms; Minter Homes Co., Contr., Greenville, S. C.

Okla., Chickasha—J. L. Burtisch, Propr., New Chickasha and New Savoy Hotels, plans to erect number of bungalows upon completion of alteration and additions to cost \$100,000 already begun on hotels.

Okla., Oklahoma City—C. G. Beveredge, Contr., will erect \$10,000 dwelling and garage, 2920 N. Robinson St.; 2 stories; frame.

Tenn., Memphis—Mrs. E. M. Lindsey will erect \$15,000 residence, McLean Blvd. and Carr Ave.; 2 stories; oak and tile floors; concrete foundation; asphalt shingle roof. Address Estes W. Mann, Archt. (Lately noted).

Tenn., Memphis—Dr. W. L. Rucks will erect \$10,000 residence, McLean Blvd. and Carr Ave.; English type; stucco on metal lath; 61x32 ft.; 2 stories; hardwood floors; concrete foundation; composition shingle roof; electric lights; 2 baths. Address Estes W. Mann, Archt. (Lately noted).

Va., Big Stone Gap—Scott-Kitzmiller Co., Inc., Rufus W. Scott, Prest., Reading, Pa., will erect number of mill houses.

Va., Martinsville—American Dining Room Furniture Co., A. D. Witten, Prest., will erect 40 to 50 employees' dwellings; \$1500 each; also plan office building for use of American Dining Room Furniture Co. and

W. Va., Charleston—J. N. Stone will erect \$10,000 residence, 1538 Lee St.

W. Va., Huntington—South Side Realty Co., will erect 10 dwellings, Neel St. near Hunt-

ington Ave.; \$100,000; brick; J. S. Weaver, Contr. American Furniture Co., Inc. (Lately noted under Va., Martinsburg.)

Government and State.

Ala., Birmingham—Post Office—Treasury Dept., Jas. A. Wetmore, Act. Supervising Archt., Washington, D. C., receives bids until Dec. 29 for changes on first and second floors of post office and courthouse; drawings and specifications from Custodian at site or from office Supervising Archt.

Md., Edgewood—Officers' Quarters—Constructing Quartermaster, Geo. H. Schumacher, Capt., Edgewood Arsenal, receives bids until Dec. 27 to erect 20 sets of frame officers' quarters at Edgewood Arsenal, Md.

Hospitals, Sanitariums, Etc.

Fla., Sebring—Geo. E. Sebring will form stock company and erect fireproof hospital and sanatorium overlooking Lake Jackson; soundproof walls.

Tenn., Shelbyville—Board of Directors, Bedford County Hospital, H. C. Tilford, Secy., plan to erect 25-bed hospital.

Hotels.

Ala., Birmingham—Sam Baron and Jake Heyman, Augusta, Ga. and W. T. Wilson, Charlotte, N. C., leased Hillman Hotel and will install 50 to 60 additional baths, redecorate and refurnish; Steiner & Nelson, owners, will reconstruct and remodel front, lobby and stores in building; total cost \$100,000; Geo. B. Wheelock, Archt., Birmingham.

Ark., El Dorado—Geo. W. James, Bernice, La., plans to erect hotel, S. Washington Ave. and W. Cedar St.

Fla., Miami Beach—Irving A. Collins, Moorestown, N. J., will not erect hotel as lately reported.

Ga., Augusta—E. O. Cooper and associates will erect apartment hotel, Hickman Rd. and Walton Way; 3 stories; 24 suites of 5 rooms; \$150,000.

Miss., Yazoo City—J. G. Repsher, Kaye & Repsher, plans to erect hotel.

Mo., Kennett—Shelton Bros. and Hugh Pankey will erect \$100,000 hotel; Martin J. Laubis, Archt.

N. C., Asheville—Dr. E. W. Grove, St. Louis, let contract to Woodcock & Reed for excavation for 200-room commercial hotel to replace Battery Park Hotel. (Lately noted).

S. C., Rock Hill—W. W. Marmaduke, Mgr., Hotel Franklin, Spartanburg, will remodel Carolina Hotel; \$25,000.

Tex., Austin—Driskell Hotel, W. L. Stark, Mgr., plans to erect 125-room addition; also install public cafe and luncheon.

Va., West Point—West Point Hotel Corp., R. C. Carden, Prest., will erect \$80,000 to \$100,000 hotel; 3 stories; brick; Chas. M. Robinson, Archt., Times-Dispatch Bldg., Richmond.

W. Va., Williamson—Vaughan Hotel, C. F. Vaughan, Prop., will erect \$200,000 building; 5 stories; fireproof; brick and limestone; 125 rooms; half of rooms to have tub baths and others, shower baths; Richard M. Bates, Jr., Archt., Huntington. (Lately noted.)

Miscellaneous.

Ga., Macon—Home—Appleton Church Home Trustees, Marshall J. Ellis, Chron. Bldg. Comm., will erect administration building and cottages; Alexander Blair, Macon, and A. Ten Eyck Brown, Atlanta, Archts.

In writing to parties mentioned in this department, it will be of advantage to all concerned if the Manufacturers Record is mentioned.

Md., Baltimore—Maryland Club, Stuart S. Janney, Prest., Charles and Eager Sts., will erect annex for locker room, lounging room, hydrotherapeutic department and swimming pool.

N. C., Chapel Hill—Clubhouse—Sigma Nu Fraternity, Geo. Stephens, Asheville, Chrmn. Comm., will erect clubhouse; 3 stories; brick; marble sills and facings.

Tenn., Knoxville—Club—Civic Realty Co., W. M. Bopham, Chrmn. Comm., plans to erect club building.

Va., Richmond—Clubhouse—Country Club of Virginia, Levin Jones, Prest., is considering \$125,000 improvements to include addition to clubhouse to provide locker space, lounging rooms for men and women, golf professional's shop and caddy room, several additional bedrooms and outdoor swimming pool; also resurfacing tennis courts.

Railway Stations, Sheds, Etc.

Ky., Louisville—Louisville Ry. Co., Jas. P. Barnes, Prest., will erect interurban union station; 2 or 3 stories; 200x500 ft.; lower floor for stores, waiting room and car shed; offices above; concrete walkways. (Lately noted.)

Mo., Eldon—Chicago, Rock Island & Pacific R. R., J. G. Gorman, Prest., 139 W. Van Buren St., Chicago, will erect \$10,000 ice storage building; 1 story; 32x80 ft.; A. T. Hawk, Archt., 130 W. Van Buren St., Chicago.

N. C., High Point—Southern Ry. Co., J. S. Lemond, Ch. Engr., Lines East, Charlotte, will erect 50-ft., 2-story addition to eastern end of freight depot for offices, and 40-ft. 1-story addition to western end of building for loading platform.

Schools.

Ala., Decatur—School Board, D. D. McGeehe, Chrmn., will erect \$125,000 high school on Pond St.; D. O. Whildin, Archt., Birmingham; receiving bids.

Ala., Selma—City School Board will erect junior high school, enlarge Clark School, etc.; \$100,000 bonds available.

Ky., Ashland—School Board, P. D. Wells, Secy., will erect junior high school; \$100,000.

Ky., Louisville—Board of Education will erect 4-room nucleus of 10-room Virginia Avenue Colored School; 1 story and basement; reinforced concrete, brick veneer and tile; asbestos shingle roof; metal decks; wire glass skylights; exterior of windows, steel frame; steam heat; uni-lateral lighting; Edgar A. Rassner, Archt.

Ky., Pikeville—Board of Education, H. M. Hoskins, Secy., will receive bids until Dec. 23 to erect gymnasium; 1 story; brick; wood floors; concrete foundation; fireproof roof; plans and specifications at office C. G. Evans, Archt.-Engr. (Lately noted.)

Ky., Whitesburg—Letcher County Board of Education will erect 3 schools; contract within 3 weeks. Address Geo. Clark.

La., Baker—Leyland College will receive bids until Jan. 4 to erect group of 6 buildings; \$150,000; 3 to be 1-story, frame; others, 2 stories, brick; plans and specifications at office Favrot & Livaudais, Archts., Hibernia Bank Bldg., New Orleans. (Lately noted.)

La., Mansfield—De Soto Parish School Board, G. O. Houston, Secy., will receive bids until Jan. 3 to erect \$40,000 building in Wallace School Dist.; plans and specifications at office Edw. F. Nield, Archt., Shreveport.

La., Rayville—School District No. 16 will vote Jan. 9 on \$100,000 bonds to erect building; election same date in School District

No. 15. Address Richland Parish School Board.

Miss., Brookhaven—Board of Education will erect high school; \$150,000 bonds voted.

Miss., Canton—School Trustees will erect \$125,000 high school; 2 stories; 190x160 ft.; brick and stone; composition roof; wood floors; concrete foundation; steam heat; bids opened about Jan. 15; N. W. Overstreet, Archt., Jackson. (Lately noted.)

Miss., Linn—Board of Education will erect \$50,000 school; 140x80 ft.; brick and stone; composition roof; steam or hot water heat; bids opened Dec. 4; N. W. Overstreet, Archt., Jackson.

Mo., Fawcett—Board of Education, J. W. Roach, Secy., will erect high school addition; \$35,000; 2 stories and basement; 52x72 ft.; brick; stone trim; Eckel & Aldrich, Archts., Corby-Forsee Bldg., St. Joseph. (Previously noted.)

Mo., Rockport—City voted \$75,000 bonds to erect school. Address Board of Education.

N. C., Charlotte—Mecklenburg County Bd. of Education will erect \$25,000 consolidated school in Hickory Grove Dist.

N. C., Charlotte—County School Board, J. M. Matthews, Supt., will erect 5-room school to replace structure burned.

N. C., Concord—Stonewall Jackson Training School, Jas. P. Cook, Chrmn., will erect cottage.

N. C., Forest City—City will vote on \$50,000 school bonds. Address Board of Education.

N. C., Franklinton—School Board will erect building, gift of S. C. Vann; Jas. A. Salter, Archt., Raleigh. (Lately noted.)

N. C., Henderson—Henderson Township will vote Jan. 30 on \$150,000 school bonds; E. M. Rollins, Vance County Supt. of Schools.

N. C., Kittrell—Kittrell Township will vote Feb. 13 on \$45,000 bonds to be supplemented by \$25,000 from state to erect high school; E. M. Rollins, Vance County Supt. of Schools, Henderson.

N. C., Marion—McDowell County Board of Education will erect school in Stroudtown community; 10 classrooms, assembly hall and library; also erect school in North Cove Township.

N. C., Woodruff—School Board, Prof. J. C. Rushton, Supt., is considering \$50,000 bond issue to erect building.

Tenn., Chattanooga—Hamilton County School Board will erect school at Maddox.

Tenn., Greenville—City School Board, L. N. Byrd, Prest., will erect high school on Wesley St.

Tenn., San Marcos—San Marcos Baptist Academy will erect \$30,000 athletic building; brick.

Va., Amherst—Board of Education will erect high school at Madison Heights.

W. Va., Dry Fork—Dry Fork School Dist. Trustees will erect high school at Harmon.

Stores.

Ala., Birmingham—J. B. Gammill will erect store at 39th St. and Clairmont Ave.

Ark., Little Rock—Sam M. Abeles will erect 2-story store and apartment building, 13th and Woodrow Sts.; 5 stores on lower floor; 8 three-room apartments above.

D. C., Washington—S. Biron, 1218 9th St., N. W., will erect store, Georgia Ave. and Newton St., N. W.; 1 story; 18x30 ft.; brick; B. F. Meyers, Archt., 1033 Park Rd., N. W.

D. C., Washington—F. Frazzano, 503 D St., N. W., will erect store and apartment building, 6th St. and Massachusetts Ave.,

N. W.; 2 stories and basement; 60x22 ft.; L. P. Johnson, Archt., 301 Homer Bldg.

D. C., Washington—Frank Malastine will erect \$24,000 store and apartment building, 12th St. and Pennsylvania Ave., S. E.; 2 stories and basement; 14x82x39 ft.; brick; U. S. Plager, Archt., 1930 Kerney St., N. E.

Fla., Gainesville—Phillip Miller will erect 5 stores on University Sq.; brick; plans by owner.

Fla., Orlando—Carl Dann Real Estate Co. will erect 1-story stucco building.

Ga., Atlanta—Union Paper Co., Louis Wellhouse, Prest., will erect 5-story store and office building, Luckie and Cone Sts.; \$200,000; 40x100 ft.

Ky., Bastin—Jno. S. Webb, Thornton, will erect store; contract at once.

Ky., Catlettsburg—Otto Feutchenberger will erect 3-story brick building, Main and Center Sts.

Ky., David—Dudley Coal Co. will erect store. (See Dwellings.)

Ky., Jeff—Gorman-Meguire Coal Co. will erect store. (See Dwellings.)

La., New Orleans—H. G. Markel, Whitney Central Bldg., is preparing plans for group of stores; \$16,000; Spanish renaissance type; 1 story; 82x88 ft.; hollow tile and stucco; tile and composition roof.

Md., Baltimore—Jno. J. Dubbelde, 728 N. Howard St., will erect additional story and remodel building at 724-26 N. Howard St.

Md., Baltimore—P. H. Goodwin, Calvert Bldg., Prest., Bel Mar Co., will erect \$500,000 building, Homeland Ave. and York Rd., Govans, for administration building for L. Greif & Bro., Inc., Eutaw and Redwood Sts.

Mo., Kansas City—L. L. Slinger will erect \$27,000 building, 1214 Benton Blvd.

Mo., St. Louis—Wm. O. Bechtold, 3809 Morganford Rd., will erect \$10,000 store and flat building; 2 stories; 25x53 ft.; Chas. N. Breitsehuh, Archt., 3508A Humphrey St.

Mo., St. Louis—Ploss Investment Co., will erect \$15,000 store, Arsenal and Virginia Sts.; 1 story; 65x70 ft.; brick; stone trim; E. J. Lawler, Archt., Chemical Bldg.

N. C., Asheville—Eugene F. Jefferies will erect store on Broadway to be leased by T. Galumbeck & Co.; 23x80 ft.

Tenn., Memphis—A. L. Coward will erect block of brick store buildings, Poplar Ave. and Tucker St.; 145x65 ft.; Regan & Weller, Archts.

Tenn., Brownwood—Joe J. Renfro will erect 2-story building.

Tenn., Fort Worth—A. E. Kiesling will erect 3-story reinforced concrete building, Main and McKinney Sts.; concrete and tile floors; \$35,000.

Tenn., Houston—Gus and Robt. Tips will erect \$30,000 building on Austin St.; 2 stories; brick walls; steel columns; mill constructed roof and floors.

Va., Petersburg—F. A. Bishop, McIlvaine Bldg., prepared plans for store at 249 Symmore St.; \$15,000; 1 story; 28x90 ft.; brick.

Va., Richmond—United Cigar Stores Co., 44 W. 18th St., New York, will expend \$15,000 to remodel building at 7th and Broad Sts.; 2 stories; brick; L. E. Denslow, Archt., 44 W. 18th St., New York.

Va., Winchester—Frank S. Emmert & Son, Martinsburg, W. Va., will remodel and enlarge store.

W. Va., Charleston—H. O. Baker, Quarrier St., will erect business building on Summers St.

W. Va., Charleston—Guy A. Porter, J. E. Hill and R. Graves Hubbard will erect 3-story building on Summers St.

In writing to parties mentioned in this department, it will be of advantage to all concerned if the Manufacturers Record is mentioned.

Theaters.

Ky., Blackey—J. T. Whitaker will erect \$10,000 theater.

Warehouses.

Tenn., Greeneville—W. W. Barnard will erect 2-story tobacco prize house; 16,000 sq. ft. floor space; electric press and fixtures.

Government and State.

Okl., Shawnee—Post Office—Treasury Dept., Jas. A. Wetmore, Act. Supervising Archt., Washington, D. C., will erect post office; A. M. Lundberg, 5564-A Page Ave., St. Louis, contr. at \$93,226, desires sub-bids on granite, limestone, structural iron, mill-work, ornamental iron, roofing and sheet-metal, plumbing and heating, electrical work, and plastering.

BUILDING CONTRACTS AWARDED**Apartment Houses.**

D. C., Washington—Eugene C. Copenhagen, 1518 Connecticut Ave., N. W., will erect \$65,000 building, Calvert St. near 19th St.; 4 stories and basement; 62x30 ft.; brick; C. Herbert, Archt.-Contr., 1944 Naylor Rd., S. E.

Fla., Miami Beach—J. Hack, Nemo Grocery, Collins Ave., will erect 15-suite building, Jefferson Ave. and 3rd St.; electric stoves; contract let.

Ga., Atlanta—S. P. Cronheim will erect Peachtree Terrace Apts., Peachtree St. near 16th St.; \$350,000; Italian renaissance architecture; terraces and suaken garden; 42 suites of 1 to 5 rooms each; G. Lloyd Preacher & Co., Archts.; Gude & Co., Contrs.; financing by G. L. Miller & Co.

N. C., Charlotte—Mrs. Geo. H. Reid will erect \$15,000 to \$20,000 building, 1709 South Boulevard; frame and brick veneer; 4 suites; 20 rooms; W. H. Allen, Contr.

Bank and Office.

Fla., Jacksonville—Jacksonville Branch Federal Reserve Bank of Atlanta, J. C. Cooper, Chrmn, Board of Directors, will erect 2-story building, Hogan and Church Sts.; \$161,000; 53x90 ft.; reinforced concrete; fireproof; tile roof; tile, marble, hardwood and cork floors; low pressure steam heat; vaults; A. TenEyck Brown, Archt., Forsyth Bldg., Atlanta; H. C. Dozier, Asso. Archt., Jacksonville; Southern Ferro-Concrete Co., Contrs., Atlanta; will seek appropriation to erect 3-story building as originally planned.

Ga., Atlanta—Geo. F. McGlawn and S. W. Bowen, both care American National Insurance Co., will erect 11-story office building, Luckie and Fairlie Sts.; \$350,000; fireproof; steel and concrete; first 2 floors to be faced with marble, brick above; G. Lloyd Preacher & Co., Archts.; Gude & Co., Contrs.; financing by G. L. Miller & Co.

Md., Baltimore—Farmers & Merchants National Bank will erect \$30,000 building, 865 W. North Ave.; 3 stories; stone and brick; 18x84 ft.; Benjamin Frank, Archt., 328 N. Charles St.; Consolidated Engineering Co., Contr., Calvert Bldg.

Tex., Brenham—First National Bank will erect 3-story and basement building; \$80,000, including electrical work, heating and plumbing; 37x82 ft.; brick, stone and concrete; concrete floors and foundation; gravel roof; Sanguinet, Staats & Gottlieb, Archts., Fort Worth; Central Contracting Co., Contr.; Kinnison Bros., vapor heat; both Dallas; Schroeder Electric Co., San Antonio, electrical work; Beach Plumbing & Heating Co., Fort Worth, plumbing.

Tex., Houston—Houston Building Co., S. F. Carter, will alter and erect two-story addition to Carter Bldg.; \$20,000; reinforced concrete and steel; concrete vaults and basement; fireproof; composition and promenade tile roof; concrete and probably composition floors; steam heat; 2 gearless type elevators; ornamental terra cotta; interior tile; metal doors; wire glass; mail chutes; Sanguinet, Staats & Gottlieb, Archts., Carter Bldg.; American Construction Co., Contr.

Va., Petersburg—Union Trust Co. will remodel section of Mechanics Bldg. for banking room; \$30,000; Indiana limestone; structural steel; C. W. Isbell, Archt.; B. F. Keeler, Contr.; vaults and marble interior finish and floors not in general contract.

City and County.

Okl., Ponca City—Auditorium—City will erect 2 wings to auditorium for municipal depts.; 60x80 ft. each; fireproof; Layton & Smith, Archts.; Holmboe Construction Co., Contr., at \$87,000; both Oklahoma City.

Churches.

Md., Baltimore—St. Michaels and All Angels' P. E. Church, St. Paul and 20th Sts., Rev. Wyatt Brown, Rector, will erect \$12,000 chapel; 40x140 ft.; plans by Wm. F. Stone, Jr., John Hiltz & Sons Co., Contrs., 343 St. Paul St.

N. C., Mt. Airy—Central Methodist Church, Geo. O. Graves, Chrmn. Bldg. Comm., will erect 3-story Sunday school addition; \$40,000 to \$50,000; about 60x100 ft.; brick or granite; slate roof; concrete and pine floors; interior tile; rolling partitions; steam or hot water heat; electric lights; Louis H. Asbury, Archt., Charlotte; A. R. Lazenby, Contr., Salisbury.

Tenn., Memphis—Westminster Presbyterian Church will erect \$50,000 Sunday school addition; ordinary construction; face brick; stone trim; steam heat; showers; Raymond B. Spencer, Archt., Goodwyn Inst. Bldg.; R. F. Creson & Co., Contrs., Builders' Exchange.

City and County.

Fla., Plant City—City Hall—City will erect brick city hall building; 2 stories; B. C. Bonfoey, Archt., Tampa; Marshall & Jackson, Lakeland, contrs., at \$27,904, including heating plant and composition floor.

Dwellings.

Ala., Fort Payne—W. B. Davis & Son, Inc., let contract to erect 100 operatives' houses; 5 to 8 rooms each.

Fla., Miami Beach—Mrs. Andrew Wells Robertson will erect \$15,000 residence, 1702 Meridian Ave.; 2 stories; tile; Wade & Sons, Contrs.

Fla., Miami—John Seybold will erect two 2-story and three 1-story dwellings, Spring Garden; concrete, brick, stucco and frame siding; August Geiger and Kiehnell & Elliott, Archts.; John B. Orr, Contr.

Md., Baltimore—Rose K. Yoffe, 1717 W. North Ave., will erect \$10,500 residence, 3702 Liberty Heights Ave.; 1 story; fireproof; 41x42 ft.; slate roof; hot water heat; S. J. Smith, Archt.-Contr., 11 E. Lexington St.

N. C., Charlotte—S. V. Pitts will erect \$10,000 residence, stop 3, Queens Rd.; 8 rooms; frame and brick veneer; E. J. Berry, Contr.; construction begun.

Okl., Muskogee—Jos. L. Hull will erect \$10,000 residence, 2402 Boston St.; brick veneer; 1½ stories; 8 rooms and 2 baths; oak floors; concrete foundation; asphalt shingle roof; D. P. Hoover, Contr., Baltimore St.

S. C., Buffalo—Union-Buffalo Mills will erect 20 operatives' houses; Bailey Builders Supply Co., Contr., Union. (See S. C., Union.)

S. C., Columbia—J. R. Cain will erect Colonial residence, University Pl. and Pickens St.; Lafayette & Lafayette, Archts.; R. D. McClure, Contr.

S. C., Union—Union-Buffalo Mills will erect 25 to 30 operatives' houses at Union and 20 at Buffalo; \$40,000 to \$60,000; Bailey Builders Supply Co., Contr., Union.

Hotels.

Fla., Miami Beach—Davis-Scott Investment Corp., will erect \$70,000 servants' quarters hotel on Alton Rd.; Spanish architecture; 3 stories; first floor for fireproof garage for 30 cars; second and third floors, 52 rooms; Hampton & Reimert, Archts.; P. J. Davis, Contr., both Miami.

Okl., Chickasha—J. L. Burttschi will erect 50-room addition to Savoy Hotel, First St. and Chickasha Ave.; \$75,000; also erect 20-room addition to New Chickasha Hotel; \$30,000; A. J. Puckett, Contr.

Schools.

La., Mamou—Evangeline Parish School Board, Ville Platte, will erect high school; \$69,069; 4 stories; 24 classrooms; brick; Algonite stone trim; reinforced concrete foundation; J. W. Smith, Archt., Monroe; W. A. Prater, Contr., Baton Rouge. (Lately noted.)

Md., Baltimore—J. H. Gault, Prest., Gault Mfg. Co., Union, S. C., will convert building at Liberty St. and Park Ave. into stores and offices; \$25,000; Otto G. Simonson, Inc., Archt., Maryland Casualty Tower; Jno. E. Marshall & Sons, Contrs., 117 South St. (Lately noted.)

N. C., Charlotte—Mecklenburg County Board of Education will erect \$30,000 building in Long Creek Consolidated School Dist.; 2 stories; brick; rock foundation; 8 rooms and auditorium; Brown-Harry Constr. Co., Contr., Gastonia.

N. C., Concord—School Board, A. S. Webb, Secy., will erect \$160,000 high school; 162x130 ft.; 3 stories; 18 rooms, auditorium and balcony, gymnasium, library, reading room, teachers' room, cafeteria, etc.; steel frame; slow burning construction; brick exterior walls with terra cotta or limestone trim; hardwood floors; C. Gadsden Sayre, Archt., Anderson, S. C., and Raleigh, N. C.; Jno. R. Query, Contr., Concord. (Lately noted.)

Tex., Refugio—Refugio School Board will erect \$24,000 building in Bonnie View School Dist.; 2 stories; 57x95 ft.; wood floors; concrete foundation; tin roof; W. C. Stephenson, Archt., Beeville; N. Bergall, Contr., Woodsboro. (Lately noted.)

Tex., Taylor—Board of Education will erect auditorium at Taylor High School under construction; \$34,000; 2 stories; 60x96 ft.; Johns Manville built-up roof; cement, linoleum, mastic and wood floors; concrete foundation; Giesecke & Harris, Archts., Littlefield Bldg., Austin; Henger & Chambers, Contrs., Dallas; F. Kutzbach, Taylor, heating, lighting and plumbing. (Lately noted.)

Stores.

Tenn., Memphis—Irby Boyd will erect 6 one-story brick stores, 1424-36 Florida St.; \$14,000; stucco and stone trim; composition roof; plate glass fronts; B. E. Buffalo & Co., Contrs.

Tenn., Memphis—W. A. Hein will erect 2-story brick store, 6 S. Second St.; Blair Constr. Co., Contr.

W. Va., Charleston—Coyle Realty Co. will erect department store, Lee and Dickinson Sts.; 4 stories and basement; 98x110 ft.; hollow fireproof tile; tile and concrete floors; brick foundation; composition roof; metal doors; ornamental terra cotta; steel sash and trim; ventilators; vault lights; Warner, Tucker & Patterson, Archts., Masonic Bldg.; Higginbotham & Jones, Contrs., Charleston National Bank Bldg. (Lately noted.)

In writing to parties mentioned in this department, it will be of advantage to all concerned if the Manufacturers Record is mentioned.

MACHINERY, PROPOSALS AND SUPPLIES WANTED

Alternator.—Wilson-Hock Co., (Mchy. Dealers) City Point, Va.—1000 K W. to 1500 K.

Agitators (Syrup).—The Ricco Company of America, 938 Bay St., Columbus, Ga.—Information and prices on syrup agitators.

W., 3 phase, 60 cycle, 2300 volt revolving field alternator, prefer generator direct connected to high grade Corliss engine; together with suitable exciter and switchboard and approx. 1000 H. P., boiler capacity; B. & S. type preferred.

Arc Welder.—Wilson-Hock Co., (Mchy. Dealers), City Point, Va.—Arc welder with 3 phase, 60 cycle, 220 volt motor, 150-200 amp. capacity, with switchboard.

Asphalt Plant.—Powell Paving Contracting Co., Columbia, S. C.—Prices on second-hand asphalt plant, good condition, prefer Cummmer, 1250 yd. capacity.

Axle (Wagon) Gaining Machine.—C. H. Russell & Son, Inc., Clarksville, Va.—New or second-hand triple head wagon axle gaining machine.

Boiler.—Hackley Morrison Co., Inc., (Machinery Dealers) 1708 Lewis St., Richmond, Va.—To purchase 250 H. P. Scotch dry back boiler.

Boiler.—Hackley Morrison Co., Inc., (Mchy. Dealers), 1708-22 Lewis St., Richmond, Va.—In market for 20 H. P. vertical boiler.

Boilers.—See Pumps and Boilers.

Boiler.—E. E. Golladay, Woodstock, Va.—Prices on second-hand 30 or 40 H. P. scotch marine type or economic boiler.

Boiler Shop Equipment.—Dixie Boiler Co., 954 Ribbold Bldg., Dayton, Ohio—Prices on new and second-hand mchy. for small boiler shop including: 10-ft. drop housing bending roll, capacity $\frac{1}{2}$ -in. plate; punch and shear, capacity 4-in. hole in $\frac{1}{2}$ -in. plate; bevel shear, capacity $\frac{3}{4}$ -in. plate; 8-ft. arm wall drill; air compressor capable of supplying air for 5 hammers; two 2-ton electric hoists and necessary hand tools.

Boilers.—Murch Bros. Construction Co., 1156 Railway Exchange Bldg., St. Louis, Mo.—Prices on boilers.

Boilers.—Wood & Lane Co., (Mchy. Dealers), St. Louis, Mo.—To purchase boilers, state price, condition, etc.; f. o. b. cars.

Building Material.—H. D. Watts Co., Garrett Bldg., Baltimore, Md., is estimating on School No. 8, Central Ave. and Lexington St., and desires sub-bids and estimates until Dec. 12; Buckler & Fenhagen, Archts., Baltimore; also bidding on Langley and MacFarland Junior High Schools at Washington, D. C., and desires sub-bids and estimates until Dec. 11; Albert L. Harris, Archt., 422 District Bldg., Washington.

Building Material (Mill).—William J. Miller, Contracting Engineer, Athens, Ga.—Prices on steel sash, ribbed glass, maple flooring, cast iron columns, sills, column caps, beam hangers, LLY pine timbers, heavy splayed flooring, also 350,000 common brick, for cotton mill.

Burner (Refuse).—R. H. Etheredge Lumber Co., Saluda, S. C.—Prices on refuse burner to take care of the extra shavings from Yates A4 machine, capacity about 75,000 ft. in 24 hours.

Castings (Ornamental Iron).—Savannah Iron & Wire Works, Liberty & Houston Sts., Savannah, Ga.—Names and address of foundries equipped to turn out first-class ornamental iron castings.

Cheese Manufacturing Equipment.—Powhatan Cheese Co., Inc., L. E. Pettyjohn, Secy., Powhatan, Va.—Cheese mfg. equipment.

Chucks (Lathe).—Guyan Machine Shops, (Machinery Dealers), Logan, W. Va.—Chucks, independent, for 22-inch lathes.

Cylinder Grinder.—Guyan Machine Shops, (Machinery Dealers), Logan, W. Va.—Cylinder grinder for automobile cylinder.

Compressors (Air).—See Foundry Equipment.

Compressor (Air).—North State Creosoting Co., Box N. North Charlotte, N. C.—New or second-hand steam driven air compressor, about 9x10 or 9x11; Ingersoll-Rand preferred.

Conduit (Concrete).—Duval County Tuberculosis Comsn., R. H. McGinnis, Chrmn., Jacksonville, Fla.—Bids until Jan. 5 to lay 1200 ft. concrete conduit in basement of Tuberculosis Hospital, for steam and hot water pipes; plans, etc. from H. J. Klutho, Archt., 401 St. James Bldg.

Converters (Rotary).—Wood & Lane, (Mchy. Dealers), St. Louis, Mo.—To purchase rotary converters; state price, condition, f. o. b. cars.

Crane (Locomotive).—W. H. Bradley, 219 Grant Bldg., Atlanta, Ga.—To purchase 15 to 25-ton, eight wheel locomotive crane in good condition; state price and location.

Crane (Traveling).—See Foundry Equipment.

Crane (Locomotive).—A. A. Hollander, Transit Annex Bldg., New York, N. Y.—Locomotive crane with or without clam shell bucket, size 15 to 25 ton, first-class condition.

Dehydrators (Commercial).—Ozark Berry Plant Farm, Box 484, Fayetteville, Ark.—To correspond with mfrs. of commercial dehydrators.

Derrick Fittings.—Guyan Machine Shops, (Machinery Dealers), Logan, W. Va.—Derrick fittings for stiff leg derrick.

Dock-Wall.—C. L. Cadle, Supt. Public Works, Albany, N. Y.—Bids until Dec. 27 to construct certain portions of dock-wall at Ohio basin.

Drinking Cups (Paper).—Fernwood Lumber Co., W. E. Kellner, Auditor, Fernwood, Miss.—Names and addresses of mfrs. of paper drinking cups.

Dryers (Salt).—J. C. Gordy, Jefferson Island, La.—To purchase two second-hand Hersey dryers, size 32x4-ft., to be used for drying salt.

Engine.—John A. Dennis, Mayor, Mountain Grove, Mo.—One 50 H. P. engine.

Engine.—See Power Plant.

Engine (Corliss).—Wilson-Hock Co., (Mchy. Dealers), City Point, Va.—16 or 18x36 Corliss engine, must be modern type and in good condition, also reasonably priced; used engine desired.

Engines.—Wood & Lane Co., (Mchy. Dealers), St. Louis, Mo.—To purchase engines, state price, condition, etc.; f. o. b. cars.

Electric Lighting Fixtures.—State Bond Improvement Comsn. of Miss., Box 636, Jackson, Miss.—Bids until Dec. 11 for electric lighting fixtures for the chemistry and pharmacy building at the University of Miss., University, Miss.; further information on application.

Elevator.—Murch Bros. Construction Co., 1156 Railway Exchange Bldg., St. Louis, Mo.—Prices on elevator.

Filing (Steel) Units.—Navy Dept., Post Quartermaster, U. S. M. C., Navy Bldg., Washington, D. C.—Bids until Dec. 13 for 50 steel filing units, vertical, one drawer wide by four drawers high, standard letter size, olive green finish; for further information apply to Room 3207 Navy Bldg.

Fire Fighting Apparatus.—W. Austin Smith, City Mgr., Tallahassee, Fla.—To purchase triple expansion fire fighting apparatus.

Foundry Equipment, etc.—Blackwood Electric Steel Corp., Alexander Blackwood, Pres., Parkersburg, W. Va.—Bids will be opened Jan. 1 on foundry equipment including: annealing furnaces; overhead traveling crane; swinging and stand grinders; acetylene generator; electric welders and air compressors.

Furnaces (Annealing).—See Foundry Equipment.

Gasoline, Kerosene and Fuel Oil.—The Quartermaster, U. S. M. C., Navy Bldg., Washington, D. C.—Bids opened Dec. 27 for gasoline, kerosene and fuel oil; information on application to Quartermaster, Room 3207 Navy Bldg., Washington.

Gate (Automatic).—O. D. Wheeler, 1809 1/2 S. Blvd., Charlotte, N. C.—To purchase latest improved automatic entrance gate for clubhouse grounds, which will permit automobiles to enter without stopping.

Generator (Acetylene).—See Foundry Equipment.

Generator Sets (Motor and Engine).—Wood & Lane Co., (Mchy. Dealers), St. Louis, Mo.—To purchase motor generator sets and engine generator sets, direct connected; state prices, condition, etc., f. o. b. cars.

Grinders (Swinging and Stand).—See Foundry Equipment.

Heating System (Steam).—Duval County Tuberculosis Comsn., R. H. McGinnis, Chrmn., Jacksonville, Fla.—Bids until Jan. 5 to install small high pressure steam system, to heat water and for sterilizing purposes; plans, etc. from H. J. Klutho, Archt., 401 St. James Bldg.

Hoist (Mine).—Hackley Morrison Co., Inc., (Machinery Dealers), 1708 Lewis St., Richmond, Va.—One 50 to 60 H. P. mine hoist electric drive.

Hosiery Plant.—Burnett Knitting Mills, French Broad, Tenn.—To purchase complete second-hand plant for mfg. hosiery.

Hoists.—Wood & Lane Co., (Mchy. Dealers), St. Louis, Mo.—To purchase hoists; state price, condition, etc.; f. o. b. cars.

Laundry Machinery.—R. L. McClure, care of Hotel Monier, Charleoi, Pa.—To correspond with mfrs. of laundry mchy.

Levee Construction.—Board of Directors, Miller Levee Dist. No. 2, Texarkana, Ark.—Bids until Dec. 12 to construct 200,000 cu. yds. levee enlargement on right bank of Red river between Buzzards Bluff and Cotton Belt Railroad; C. S. Christian, Engr., Texarkana.

Levee Construction.—Mississippi River Comsn., 1st and 2nd Dist., Custom House, Memphis, Tenn.—Bids until Dec. 15 to construct 100,000 cu. yds. earthwork in White River Levee Dist.

Levee Construction.—Miller Levee Dist. No. 2, Texarkana, Ark.—Bids opened Dec. 12 to construct 200,000 cu. yds. levee enlargement on right bank of Red River between Buzzards Bluff and Cotton Belt R. R.; plans, etc. from C. S. Christian, Dist. Engr., Texarkana.

Locomotive (Gasoline).—Industrial Supply & Equipment Co., Nitro, W. Va.—To purchase second-hand 36-in. gauge gasoline locomotive.

Locomotive (Freight).—Pennsylvania Equipment Co., (Mchy. Dealers), Norwood, Pa.—To purchase second-hand freight locomotive.

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60 to 65 tons, 10 to 12-ft. rigid wheel base, about 40-in. wheel centers.

Locomotives.—Wood & Lane Co., (Mchy. Dealers), St. Louis, Mo.—To purchase locomotives; state price, condition, etc., f. o. b. cars.

Mining Machines.—Wood & Lane Co. (Mchy. Dealers), St. Louis, Mo.—To purchase mining machines; state price, condition, etc., f. o. b. cars.

Miscellaneous Equipment.—State Bond Improvement Comsn. of Miss., Box 636, Jackson, Miss.—Bids until Dec. 11 for electric lighting fixtures and miscellaneous equipment for biology building at the Mississippi A. & M. College, Starkville, Miss.; further information on application.

Miscellaneous Supplies.—Edward H. Pinckney, Secy., Board of Commrs., Charleston Orphan House, Charleston, S. C.—Bids until Dec. 28 to furnish supplies including, meats, groceries, bread, dry goods, etc.

Motors. Wood & Lane, (Mchy. Dealers), St. Louis, Mo.—To purchase motors; state price, condition, etc.; f. o. b. cars.

Novelties (Metal, Pressed).—C. P. Armory & Co., Winchester, Va.—To correspond with mfrs. of small metal pressed novelties.

Pasteurizers (Syrup).—The Ricco Company of America, 938 Bay St., Columbus, Ga.—Information and prices on syrup pasteurizers.

Paving.—F. H. Wharton, City Mgr., Miami, Fla.—Bids until Dec. 19 to lay bituminous macadam, paving; plans, etc. on file.

Paving.—City of Hermann, Mo.—Bids until Dec. 20 to extend Washington and 7th Sts. Address The Mayor.

Paving and Sewer Construction.—C. B. Johnson, Mayor, Earlington, Ky.—Bids until Dec. 18 to pave and drain several streets; 46,300 sq. yds. Warrenite bitulithic or vitrified brick, on rolled stone base; 13,840 cu. yds. crushed stone, 22,840 lin. ft. curb and gutter; 4,776 lin. ft. 12 to 42-in. storm sewers; 23 manholes; 62 inlets; 10,215 lbs. reinforcing steel; plans, etc. from R. G. Giffin, Civil and Mining Engr. Madisonville, Ky. (Lately noted.)

Paving.—City, Frank M. Garvey, Engr., Vicksburg, Miss.—Bids until Jan. 2 to lay 2000 sq. yds. concrete sidewalks in Ken Karyl and Douglas Park Additions; \$4500; W. J. Hossley, Street Commr. (Lately noted.)

Paving.—J. J. Hayes, Mayor, Vicksburg, Miss.—Bids until Dec. 18 to pave 40,000 sq. yds. streets, as follows:
Drummond from Bowman Ave. to Polk St.; Openwood St. or Jackson Road from Jackson to Hall's Alley; Harrison St. from Cherry to First North; First North from Harrison to Clay; Second North from Clay to Grove; Walnut Veto to S. Madison; S. Madison from Walnut to Washington; Veto from Washington to Mulberry; Martha from Harrison St. to A. & V. Right-of-way; Speed St. from Pearl to Marshall; Mulvihill from Drummond St. to Confederate Ave.; plans, etc., from City Engr.

Paving.—A. C. Black, Mayor, Maiden, N. C.—Bids until Dec. 19 to pave and improve certain streets; 1800 cu. yds. grading; 5500 sq. yds. plain cement or reinforced cement concrete pavement; 6500 lin. ft. integral concrete curbs, etc.; plans, etc., on file or from Mees & Mees, Consult. Engrs., Charlotte, N. C.

Paving and Sewer Construction.—O. F. Holcombe, Mayor, Houston, Tex.—Bids opened Dec. 11 to pave Walker Ave. from Crawford to Hutchins; Hathaway Ave. from Baldwin to Crocker Sts.; construct sanitary sewers on Gregg, Campbell, Liberty Road,

Quitman and St. Bernard Sts.; plans, etc., from J. C. McVea, City Engr.

Pipe, etc.—Appalachian Marble Co., Knoxville, Tenn.—To purchase 1550 ft. of 5-in. pipe with flanges; also 550 ft. of 4-in. pipe screwed connections.

Pipe (Cast Iron).—L. O. Maxwell, Mayor, Skiatook, Okla.—12,000 ft. of 4-inch cast iron pipe.

Pipe (Reinforced, Concrete).—Board of Awards, Richard Gwinn, Register, City Hall, Baltimore, Md.—Bids until Dec. 20 for furnishing and loading reinforced concrete pipe to Highways Engr. Dept.; further information on application to A. E. Christhill, Highway Engr., Room 8, City Hall.

Planer.—C. M. Tucker, Monroe, N. C.—To purchase a 24-in. surface planer.

Power House and Equipment.—City, J. W. Vogel, City Clerk, Rich Hill, Mo.—Bids until Dec. 18 for construction of brick power house, furnishing and installing power plant mchy. and equipment; plans and specifications on file at office of Arthur L. Muller-green, Consult. Engr., 555 Gates Bldg., Kansas City, Mo.

Power Plant.—Lincoln Furniture Mfg. Co., Inc., Marion, Va.—Prices on power plant unit of from 300 to 500 K. W., consisting of direct connected A. C. generator to Corliss or Unaflow engine, 220 volt or 440 volt, A. C., 3 phase, 60 cycle.

Printing.—Commrs. of Public Printing, John C. Bond, Auditor, Charleston, W. Va.—Bids until Dec. 20 to supply state with printing, binding and printing paper and stationery, etc., for 2 years, beginning second Wednesday in Jan., 1923, ending Jan., 1925.

Pump (Air Lift).—Jno. A. Dennis, Mayor, Mountain Grove, Mo.—Air lift pump.

Pump (Electrically Driven).—City of Ft. Pierce, Fla., C. P. Staley, City Mgr.—Bids until Dec. 15 for one direct electrically driven centrifugal pump, motor and pump on same base, to deliver 700 gal. clear water per minute from reservoir at plant, against a total head of 165 ft.; flooded suction pipe, 8-in. diameter; discharge pipe, 8-in.; length 310 ft., including 140 ft. vertical lift; use of pump, intermittent; electrical current alternating, 3 phase, 220 volts, 60 cycles; starting switch to be included.

Pumps and Boilers.—H. E. Dickard, Box 492, Monroe, La.—To correspond with mfrs. of pumps and boilers for gasoline absorption plant.

Pump House.—City Comsn., W. A. Evans, Chrmn., Jacksonville, Fla.—Bids opened Dec. 14 to construct reinforced concrete pump house at foot of Osceola St.; information from Sewer Dept., City Engr's. Office, Main and Orange Sts.

Pump (Mine).—Hackley Morrison Co., Inc. (Machinery Dealers), 1708 Lewis St., Richmond, Va.—One 4-in. mine pump, electric drive.

Pump (Underwriters' Fire).—Wilson-Hock Co., (Mchy. Dealers), City Point, Va.—500 gal. capacity Underwriters' fire pump, steam actuated.

Road and Bridge Construction.—Allendale County, J. E. Bryan, County Supvr., Allendale, S. C.—Bids until Dec. 19 for 8,439 mi. State Route No. 28, between Martins and Barnwell County line; 20,675 cu. yds. sand clay surfacing; to construct creosoted timber bridge; 14x14-ft. spans; 29,585 ft. B. M. treated lumber; 1410 lin. ft. treated piling; Federal Aid Proj. No. 193; plans, etc., on file and from State Highway Engr., Columbia, S. C. (Lately noted.)

Road Construction.—State Highway Dept., Nashville, Tenn.—Bids until Dec. 15 for 9.53 mi. 16-ft. road between Humboldt and Tren-

ton; Gibson County, Federal Aid Proj. No. 86; plans, etc. from D. Q. McComb, Ch. Engr., State Highway Dept., and Div. Engr., Elks Bldg., Jackson, Tenn.

Road Construction.—Medina County, R. J. Noonan, County Judge, Hondo, Tex.—Bids opened Dec. 12 to construct drainage structures and gravel surface 23.53 mi. State Highway No. 3, Sections A and C; plans, etc., on file and from Walton & Arneson, Engrs., 418 Gunther Bldg., San Antonio, Tex.

Road Construction.—Putnam County Commrs., R. J. Hancock, Clerk, Palatka, Fla.—Bids until Jan. 1 to grade and sand clay surface 22 mi. road at Florahome; Proj. No. 5; L. E. Brunner, Engr., East Palatka. (Lately noted.)

Road Construction.—Tom Green County, J. T. Mathison, County Judge, San Angelo, Tex.—Bids until Dec. 20 to grade and construct drainage structures on 3 highways as follows: 25.18 mi. State Highways Nos. 7 and 7-A; 16.44 mi. State Highway No. 9-A; plans, etc., from Gibb Gilchrist, Engr., San Antonio, and State Highway Dept., Austin, Tex.

Road Construction.—State Road Comsn., E. B. Carskadon, Secy., Charleston, W. Va.—Bids until Dec. 19, to grade, drain and pave with rock asphalt, 7.5 mi. War-Newhall road; McDowell County, Proj. No. 3226; plans, etc., on file, or from Div. Engr., Huntington.

Road Construction.—State Highway Dept., Jefferson City, Mo.—Bids until Dec. 22 for 8.5 mi. State road from Huntsville to Keytesville; Federal Aid Project 44-B.

Road Construction.—State Highway Comsn., Frankford, Ky., will receive bids until Dec. 20 to improve 7 sections of roads as follows:

8.8 mi. Crittenden-Louisville-Paducah road from Marion Station to Livingston County line; 7 mi. Livingston-Louisville-Paducah road from County line to Cumberland River Station; 6.3 mi. Nelson-Jackson Highway from Bloomfield Station to Cox Creek Station; 8.5 mi. Jackson Highway from Jefferson County line to Bloomfield road; Bullitt, Spencer and Nelson Counties; 5 mi. Powell-Stanton-Winchester road from Stanton to 6½ mi. of Clay City; 9.6 mi. Menifee-Frenchburg-West Liberty road, from 1½ mi. east of Frenchburg to Morgan County; 9.5 mi. Lewis-Vanceburg-Maysville road, from Tollesboro to Valley, Lewis County, Joe S. Boggs, State Highway Engr.

Scales (Truck).—State Highway Dept., Dover, Del.—Bids until Jan. 3 to furnish and install 20-ton Howe or Fairbanks auto-truck scale with platform 20x9 ft.; further information on application.

Screens (Rock).—Hackley Morrison Co., Inc. (Machinery Dealers), 1708 Lewis St., Richmond, Va.—Small rock screen.

Sewers.—Board of Awards, Wm. F. Broening, Mayor, Baltimore, Md.—Bids until Dec. 20 for construction of lateral sewers in Dist. 31-C, 33-A and 49-G, as outlined in Sanitary Contract No. 194, comprising approx.; 2950 lin. ft. 15-in. 3220 lin. ft. of 12-in., 190 lin. ft. of 10-in., 14,150 lin. ft. of 8-in. vitrified pipe sewer and 102 manholes, and other work incidental to above; specifications, etc., may be obtained from office of A. E. Christhill, Highways Engr.

Sewer Castings and Construction.—City, J. J. Hayes, Mayor, Vicksburg, Miss.—Bids until Dec. 18 for furnishing castings and for construction of storm sewers on portions of Drummond, Openwood, Harrison, First North, Second North, Walnut, South Madison, Veto, Martha, Speed, Mulvihill Sts.; plans at office of City Engr.

In writing to parties mentioned in this department, it will be of advantage to all concerned if the Manufacturers Record is mentioned.

Sewer Construction.—City, F. H. Wharton, Mayor, Miami, Fla.—Bids until Dec. 19 for construction of sanitary sewers, furnishing and laying approx. 7066 ft. 8-in. terra cotta pipe, with necessary manholes and flush tanks; specifications obtainable from Chas. W. Murray, Director of Public Service.

Shear (Circular).—W. J. Collum Co., Portsmouth, Ohio.—To purchase deep throat circular shear.

Sheller (Automatic, Nut).—L. J. B. Meisler, 23 Washington Ave., Ocean Springs, Miss.—To purchase automatic nut (Pecan) sheller.

Sky Lights (Steel).—Robert S. Armstrong & Bro., (Mch. Dealers), 676 Marietta St., Atlanta, Ga.—In market for steel sky lights; mail catalog and information.

Steamer.—United Machine Works, A. F. Muller, Eng. Dept., Brooklyn, N. Y.—To purchase 300 to 500-ton, steel hull steamer; state if arranged for coal or crude oil fuel, type of keel, cargo capacity, not including fuel displacement, operative radius, general condition and equipment, photograph.

Steel.—E. L. Coble, P. O. Box 13, Louann, Ark.—Names and addresses of companies handling steel suitable for making steel pins 7/16-inch to 1-inch in diam. by 24-inch in length, requiring high tensile strength.

Sewer Construction.—The Mayor, Excelsior Springs, Mo.—Receives bids until Dec. 14 for furnishing materials and constructing sewer in Districts Nos. 12 and 52.

Shovels (Steam).—H. A. MacLean, 10 East 43rd St., New York, N. Y.—Steam shovels ¾-yd. and 1½-yd. dippers, full revolving and caterpillar mounted.

Spikes (Railroad).—Hackley Morrison Co., Inc. (Machinery Dealers), 1708 Lewis St., Richmond, Va.—30,000 lbs. of used or new railroad spikes 5½x9/16-inch.

Tank (Oil Storage).—North State Creosoting Co., Box N, North Charlotte, N. C.—New or second-hand 50,000 gal. oil storage tank, vertical tank 15 to 20-ft. diam.

Tanks.—H. E. Dickard, Box 492, Monroe, La.—To correspond with mfrs. of tanks for gasoline absorption plant.

Tanks (Storage).—The Rice Company of America, 938 Bay St., Columbus, Ga.—Information and prices on storage tanks.

Tanks (Wood).—Hackley Morrison Co., Inc. (Machinery Dealers), 1708 Lewis St., Richmond, Va.—Two 30,000 gal. second hand wooden tanks.

Tin Plate Scrap.—R. J. Crozier Co., Fuller Bldg., 10 S. 18th St., Philadelphia, Pa.—Plain and lacquered tin plate scrap, strips and circles in quantities of 100 to 500 tons monthly; plate any gauge between 70 and 120 lbs.; plain strips 1 to 1½-in. wide, 12 to 16-in. long; circles 4 to 6-in. diam.; lacquered strips 4 to 5-in. wide, 8 to 12-in. long; lacquered and plain to be packed separately; scrap guaranteed free from rust and packed in wooden boxes, double strapped for export; prices quoted F. A. S. New York or Philadelphia.

Telephone System Equipment.—State Bond Improvement Comn. of Miss., Box 636, Jackson, Miss.—Bids until Dec. 11 for necessary equipment and material for telephone system for Parchment Farm, Parchment, Miss.; further information on application.

Textile Machinery.—Burnett Knitting Mills, French Broad, Tenn.—To purchase Banner or Scott & Williams second-hand, 84 needle machine and loopers and ribbers to match.

Textile Machinery.—Henry A. Miller, Box 325, Bristol, Va.—To correspond with mfrs. of, or dealers in mch. and equipment for

the mfr. of cotton cord, sash cord, cotton belting and webbing and small cord.

Tile (Sewer).—L. O. Maxwell, Mayor, Skiatook, Okla.—20,000 ft. of 8-inch sewer tile.

Tomatoes, etc.—Navy Dept., Post Quartermaster, U. S. M. C., Navy Bldg., Washington, D. C.—Bids until Dec. 18 for tomatoes and catsup; for further information apply to Room 3207 Navy Bldg.

Towers (Water).—City Comn., Dallas, Tex.—Bids about Jan. 15 on two 2,000,000 gal. water towers, concrete or steel construction; one erected at Belmont and other at Julius Heights; approx. cost \$40,000 each; G. D. Fairtrace, City Engr.

Track.—Basic Furniture Co., Waynesboro, Va.—1100 ft. of track, 3¼-in. base by 3¼-in. high for dry kilns complete with fish plates and bolts.

Trailer.—Guyan Machine Shops, (Machinery Dealers), Logan, W. Va.—Three to five ton trailer.

Trucks, etc.—Basic Furniture Co., Waynesboro, Va.—150 ponies or trucks for Emerson kiln.

Valves (Vacuum and Safety), etc.—H. E. Dickard, Box 492, Monroe, La.—To correspond with mfrs. of relief and vacuum safety valves and all other materials necessary to construction of gasoline absorption plant.

Vise (Shaper).—Guyan Machine Shops, (Machinery Dealers), Logan, W. Va.—Vise for 24-inch shaper.

Water Works and Electric Lights.—City of Cherryville, N. C., J. M. Crocker, City Clk.—Bids until Jan. 9 for furnishing labor and materials for constructing extensions to present water works system and for constructing white way system; The Carolina Engineering Co., Engrs., Wilmington, N. C.

Welders (Electric).—See Foundry Equipment.

Woodworking Equipment.—Bradentown Novelty Co., Arnot Wadsworth, Secy., Bradentown, Fla.—Prices on 12-inch rip saw and dado, 36-inch band saw, hollow mortiser, 12-inch planner and shaper or combination woodworker.

Financial News

New Financial Corporations.

Ala., Cullman—Fuller-Smith & Company, capital \$50,000; inceptd. with Asa B. Fuller, Prest.; H. Clay Smith, Secy. (Lately noted.)

Fla., Bradentown—The Industrial Loan & Savings of Bradentown, controlled by the Power System of Banks of which H. W. Powers is head, will open for business.

Fla., Miami—Junkin & Avant, organized with \$10,000 capital; J. E. Junkin, Prest.; C. A. Avant, Vice-Prest.

Fla., Moore Haven—The First National Bank of Moore Haven, organized with \$25,000 capital; correspondent, F. W. Loy.

Ga., Savannah—The Citizens Trust Co., and the Mercantile National Bank merged as the Citizens Trust Co.; Hugo I. Frank, Prest.

La., Centerville—Teche Bank; capital \$25,000, inceptd. with J. A. Peterman, Prest.; Geo. D. Palfrey, Vice-Prest.; W. T. Palfrey, Cashier.

Md., Baltimore—State Central Building & Loan Assn., 642 Equitable Bldg., capital \$500,000, inceptd. by Hyman A. Needle, Chas. O. Needle and Louis Samuels.

Mo., Clayton—The First National Bank of Clayton, organized; conversion of the Trust Co. of St. Louis County, capital \$133,000; correspondent, F. J. Holocher.

Mo., Kansas City—The Security Home & Savings Organization formed by merging of the House Depository, Pioneer Loan and Savings Foundation, Liberty Home Building Organization, Security Home and Savings Organization, all of Kansas City, and the Aladdin Home Loan and Investment Co., of Cape Girardeau; J. S. Lapsley, Prest., and J. C. Morman, Vice-Prest., Maysville.

N. C., Charlotte—Continental Trust Co., capital \$500,000; inceptd. with Gov. W. B. Cooper, Prest. (Lately noted.)

N. C., Rockingham—McAulay, Gronland and Tyson, Inc., capital \$50,000, organized by J. A. McAulay, W. A. McAulay, J. A. McAulay, Jr., and others.

N. C., West Durham—West Durham Building & Loan Assn., capital \$2,500,000; inceptd. with C. F. Williams, Prest.; E. G. Hutchins, Vice-Prest.; W. E. Alley, Secy.

Okla., Jones—The First National Bank of Jones, organized with \$25,000 capital; succeeds the State Bank of Jones; correspondent, H. M. Johnson.

Okla., Sentinel—The Security National Bank of Sentinel, organized with \$25,000 capital; succeeds The Security State Bank; Correspondent, W. O. Callaway.

Tenn., Memphis—Buyers Insurance Co., capital \$50,000, inceptd. with I. Samelson, Herbert Heriff, Ernest Oppenheimer, H. Morris and M. E. Lesser.

Tex., Cleburne—Fidelity Mortgage & Investment Co., capital \$25,000, inceptd. by J. B. Long, W. S. Whaley, G. E. McPherson.

Tex., Dallas—Southern Brokerage & Sales Co., organized with C. R. McAdams, Jr., M. McAdams and R. T. Meader.

Tex., Eastland—Eastland National Bank, organized with capital of \$50,000; correspondent, W. T. Scott Kretz.

Tex., Lubbock—Lubbock Finance Corp., organized by J. D. Slaughter, G. E. Benson, W. S. Posey.

Tex., Port Arthur—Port Arthur Finance Co., capital \$75,000, inceptd. by L. W. Hanne-man, J. H. Washburn and J. L. Dunn.

Va., Richmond—Glen Allen Investment Corp., capital \$50,000, organized with Wm. E. Broadbuss, Prest.; John A. Cutchins, Secy.

New Securities.

Ala., Heflin—Indebtedness—Cleburne County will vote on \$115,000 bonds. Address County Commrs.

Ark., Little Rock—School—M. W. Elkins & Co., purchased \$14,000, 6% bonds from De Witt School Dist. at par and accrued interest.

Fla., Sebring—Road—Highlands County Commrs., will vote Jan. 23 on \$600,000 bonds.

Fla., St. Petersburg—Municipal Improvement—City voted \$1,037,000 bonds. Address The Mayor. (Lately noted.)

Fla., Zephyrhills—Water and Street—City

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sold \$37,000 bonds to Pruden & Co., Toledo, Ohio.

Ga., East Point—School, Water and Sewer—City voted \$150,000 bonds. Address The Mayor.

Ga., Rome—School—Cave Springs Consolidated School Dist. voted \$10,000 bonds. Address Dist. School Trustees.

Ky., Greenup—Road and Bridge—Greenup County Commrs., John L. Sowards, Treas., will receive bids until Dec. 18 for \$25,000, 5%, \$1000 denom. bonds.

Ky., West Liberty—Road—Morgan County voted \$220,000 bonds. Address County Commrs.

La., Bastrop—Road—Morehouse Parish will vote Dec. 19 on \$1,100,000 bonds. Address Police Jury.

La., Mansfield—School—Desota Parish School Bd., G. O. Houston, Secy., sold \$40,000, 6%, \$1000 denom. bonds to Hibernia Securities Co., New Orleans, at par and premium of \$1705. (Lately noted.)

La., Port Allen—Levee—Marine Bank & Trust Co., Canal-Commercial & Savings Banks, Whitney Central, Trust & Savings Bank and Watson Williams of New Orleans, purchased \$500,000 bonds of Atchafalaya Basin Levee Dist.

La., Rayville—School—Richland Parish School Dist. No. 16 votes Jan. 9 on \$100,000 bonds; and School Dist. No. 15 votes on \$141,000 bonds. Address School Board.

La., Shreveport—School—Caddo Parish School District No. 19 sold \$150,000, 5%, bonds to the First National Co., St. Louis. Address Police Jury.

Md., Cumberland—School—Allegany County will receive bids until Jan. 12 for \$500,000, 4½% bonds. Address Edward J. Webb. (Lately noted.)

Miss., Biloxi—Paving—City contemplates voting on \$500,000 bonds. Address The Mayor.

Miss., Brookhaven—School—Lincoln County voted \$153,000 bonds. Address County Commrs.

Miss., Crystal Springs—Sewer—City voted \$15,000 bonds. Address The Mayor. (Lately noted.)

Miss., Marks—Drainage—Quitman County, Sledge Bayou D. D. sold \$75,000, 6%, \$1000 denom. bonds to Bank of Commerce & Trust Co., Memphis, Tenn., at par and accrued interest. (Lately noted.)

Mo., Jefferson City—Road—Cole County Commrs., sold \$5,000,000 bonds to the First National Co., St. Louis, Kuhn, Loeb & Co. and Hallgarten & Co., both of New York. (Lately noted.)

Mo., Rockport—School—City voted \$75,000 bonds. Address The Mayor.

Mo., Sedalia—School—Sedalia School Dist. votes Dec. 8 on \$350,000 bonds. Address Supt. of Schools.

N. C., Asheboro—Sewer—Bd. of Commrs., James B. Neely, Clk., will receive bids until Dec. 19 for \$7500, 5% bonds.

N. C., Conover—Street—City sold \$5000, 6% bonds to the Citizens Bank of Conover.

N. C., Forest City—School—City votes Dec. 11 on \$50,000 bonds. Address The Mayor.

N. C., Henderson—School—Bd. of County Commrs., E. M. Rollin, Supt., will vote Jan. 30 on \$150,000 bonds.

N. C., High Point—Municipal—City sold \$250,000, 5½% bonds to the American Bank and Trust Co., Charlotte. Address The Mayor.

N. C., Kingston—School—City will vote

Jan. 9 on \$300,000 bond issue. Address The Mayor.

N. C., Reidsville—Street—City sold \$300,000, 5½% bonds to R. M. Grant Co., New York, for par and premium of \$1080. Address The Mayor. (Lately noted.)

N. C., Weldon—School—Board of School Trustees, W. E. Daniel, Chrmn., will receive bids until Dec. 18 for \$75,000, 6%, \$1000 denom. bonds.

Okla., Ponca City—Auditorium—City voted \$75,000 bond issue. Address The Mayor.

S. C., Florence—Water, Sewer and Drainage—City voted \$350,000 bonds. Address The Mayor.

S. C., Orangeburg—Bridge—Orangeburg County, L. K. Sturkie, Clerk, receives bids until Dec. 14 for \$100,000, 6% bonds. Address County Commrs.

Tenn., Knoxville—Indebtedness—City contemplates issuing \$39,000 bond issue. Address The Mayor.

Tenn., Memphis—Municipal—City sold \$3,000,000 bonds to the Old Colony Trust Co., Boston. Address The Mayor.

Tex., Bay City—Road—Matagorda County voted \$50,000 bonds; J. F. Perry, County Judge.

Tex., Bowie—Water—City, J. M. Chancellor, Mayor, will vote Dec. 22 on \$20,000 5% bonds.

Tex., Brady—Road—McCullough County, E. J. Adkins, County Judge, will vote Dec. 28 on \$450,000 bonds.

Tex., Canton—Water and Light—City voted \$50,000 bond issue. Address The Mayor. (Lately noted.)

Tex., Canton—Light and Water—Breg. Garrett & Co., Dallas, purchased \$50,000 bonds. Address The Mayor.

Tex., Canyon—School—City, Independent School District voted \$100,000 bonds. Address School Trustees.

Tex., Dillon—Sewer and Water—City voted \$50,000 bonds. Address The Mayor.

Tex., Edinburg—Refunding—Hidalgo County sold \$55,000, 6%, \$1000 denom. bonds to J. L. Arlitt, Austin, Tex. Address County Commrs.

Tex., Fort Worth—Municipal Improvement—City, Mayor Cockrell, contemplates voting Dec. 23 on \$3,000,000 bond issue.

Tex., Greenville—Street, Water Works, Sewer, Park—City will vote Dec. 30 on \$150,000 bonds. Address The Mayor.

Tex., Highland Park, (P. O. Dallas)—Water, Street and Park—Highland Park, contemplates voting on \$250,000 bond issue. Address Mayor Davis.

Tex., Kaufman—Road—Kaufman County, Terrell Road Dist., voted \$55,000 bonds; W. P. Williams, County Judge. (Lately noted.)

Tex., Leonard—Water—City votes Dec. 12 on \$30,000 bonds. Address The Mayor.

Tex., Nacogdoches—Paving—City will vote Dec. 23 on \$225,000 bonds. Address The Mayor.

Tex., Nocona—Sewer—City, W. J. Naples, City Clerk, will vote Dec. 20 on \$50,000, 6% bonds.

Tex., Spearman—Light and Water—City voted \$14,000, 6% light bonds and \$43,000, 6% water bonds. Address The Mayor.

Tex., Taylor—School—City, A. V. Hyde, City Mgr., sold \$32,000, 5%, \$1000 denom. bonds to J. T. Bowman, Austin. (Lately noted.)

Tex., Tulla—Water, Sewer and Light—City will receive bids until Dec. 18 for \$100,000 bonds. Address The Mayor.

Tex., Uvalde—Reservoir—Uvalde County will vote Dec. 30 on \$2,000,000 bonds. Address County Commrs.

Va., Norfolk—Road and Bridge—Norfolk County Bd. of Supvrs., will receive bids until Jan. 9 for \$135,000, 5%, \$1000 denom. bonds.

Va., Richmond—Sewer, Water, Gas and Public Improvement—City, Barton H. Grundy, Chrmn., Comm. of Finance, receives bids until Dec. 19 for \$2,000,000, \$1000 denom. bonds.

Financial Notes.

Citizens Bank & Trust Co., Wartburg, Tenn., will increase capital from \$15,000 to \$25,000.

Jackson Building and Loan Assn., Ravenswood, W. Va., will increase capital from \$200,000 to \$5,000,000.

State Bank and Trust Co., Wheeling, W. Va., increased capital from \$100,000 to \$150,000; Dr. John L. Dickey, Prest.; John T. Carter, Vice-Prest.

St. Charles Building and Loan Assn., St. Charles, Mo., will increase capital from \$600,000 to \$800,000.

Trade Literature.

A Handy "Blue Book."

A "Blue Book of Hotel and Restaurant Equipment," has been issued by the John Hoos Co., 306-310 Hanover Street, Baltimore, Md., manufacturers of compete outfits for such establishments, and who are also distributors for dish-washing machines, chairs and tables, urns, refrigerators, chinaware glassware, silverware and cutlery, etc. The Blue Book contains a handy memorandum tablet and on the back cover are calendars for 1923 and 1924.

Brands of Refractories.

A fourth edition of "Brands of Fire Brick and Other Refractories," has been compiled and issued by the Refractories Manufacturers Association. It gives a long list of the names of brands together with the names of the respective firms and companies making them, while on pages immediately following are to be found the names and addresses of manufacturers who have registered their brands for the booklet, the location of each plant and of the principal office being given. Many of these manufacturers have their factories in the South. The booklet is finely printed and it is of handy pocket size.

Change of Position.

W. L. Allen has resigned as vice-president and general manager of the Laclede Steel Company, of St. Louis, to become associated after January 1 with Frank H. Johnson, of Chicago, in the sale of the Laclede Steel Company's products as well as those of some other steel manufacturing companies. Before becoming associated with the company Mr. Allen was president of the Valley Steel Company of East St. Louis, Illinois, which was taken over by the Laclede in 1918. After finishing his education as a metallurgist Mr. Allen spent several years in the operating departments of steel manufacturing companies, his experience including blast furnace, open hearth furnace and finishing mill work, and he therefore carries into the sales field an unusual combination of sales and operating experience.

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INDUSTRIAL NEWS OF INTEREST

Items of news about industrial, railroad or financial interests, building operations, construction work, municipal improvements, or the sale of machinery or the letting of contracts in the South or Southwest, are invited from our readers whether they are advertisers, or subscribers or not. We invite information of this character from readers in the North and West about their Southern business operations, as well as from Southern readers. News of value will be published just as readily from non-advertisers as from advertisers.

Two Branch Offices Opened.

The Power Specialty Co., builders of Foster superheaters, economizers and oil heating and cooling equipment, have opened a new branch office in Detroit, Michigan. It is located in the Dime Savings Bank building, and under the charge of L. Lanyi. The company has also opened a branch office at Boulder, Colorado, under the charge of R. B. Nutting who was formerly Chicago district manager.

Death of James J. McCarthy.

James J. McCarthy, one of the original organizers of the Independent Pneumatic Tool Co., Chicago, Ill., and who was a director of the company until the time of his death, succumbed to an attack of pneumonia on November 25 at his residence 4800 Kimbark Ave., in that city. Mr. McCarthy was over 80 years of age and has been prominently identified with the railway supply business for many years. He also organized the Chicago-Cleveland Car Roofing Co. and actively participated in its business.

Merger Announced.

The General Seating Company, L. D. Jordan, president and sales manager, Trust Building, Charlotte, N. C., has announced that the Southeastern Seating Company of Atlanta, has been merged with the General Seating Company and that hereafter all business will be handled from the Charlotte office. Besides Mr. Jordan as president the new organization includes Hubert M. Blacklock, vice-president and treasurer; Wayne T. Jervis, secretary, P. B. Deaton, R. F. Winegar, H. W. Jordan and C. B. Darnell.

Office Opened at Richmond.

The King Pneumatic Tool Co., having general offices and plant at 1735 Armitage Avenue, Chicago, has opened a southeastern district sales office at 409 Law Building, Richmond, Va. D. B. Parker, who has had more than nine years of pneumatic tool sales and experience, with headquarters at Richmond, has been appointed district sales manager and will cover the southeastern territory for both the railroad and the industrial field systematically. Products of this company, which include both pneumatic and electric tools, as well as pressed steel products, are made of Molybdenum steel.

Peanut Harvesting Machine Invented.

R. D. Burts, A. M. Burts and George B. Burts, of Sylvester, Georgia, have perfected a peanut harvesting machine that will, it is stated, harvest peanut crops at a very small cost. The machine is made on the plan of a riding cultivator and is of about the same size. It is drawn by a pair of horses and is operated by one man riding on the machine, which he guides with his feet, keeping the machine squarely over the rows of peanuts. There is a large wheel with clamps that catch the plants by the tops and pull the bunches of peanuts out of the ground, finally placing them on a little conveyor belt which dumps them into a hopper. When thus dumped, all of the plant tops, it is noted, are lying in the same direction and the nuts in the opposite direction, so that it is very easy to stack the peanuts around the stackpoles for drying before threshing or marketing. The inventors, who propose to put the machine on the market at a price well within the reach of small farmers, are seeking to interest others with capital and facilities to manufacture it in quantity.

Improved Fuel Oil Burner.

The Hauck Venturi fuel oil burner is described as "a new and improved type of atomizer in which oil, or even tar, is completely atomized or broken up into finely divided particles by means of steam or compressed air." It is manufactured by the Hauck Manufacturing Co., Brooklyn, N. Y., and it is stated that it secures a thorough mixture of the air and the atomized fuel oil at the mouth of the burner. Reducing, neutral and oxidizing flames are readily obtained by manipulating the oil and the air valves, thus controlling furnace temperature closely. The burner is adapted to a wide range of work, including baking, bolt heading, blueing, carburizing or case hardening, continuous reheating, core ovens, drying, enameling, forging, galvanizing, japanning, ladle drying, lead and cyanide pot furnaces, melting furnaces with or without crucibles, muffle and reheat furnaces, non-ferrous and precious metal melting, oil tempering baths, open hearth furnaces, plate, angle and rod heating, rivet forges, scrap reclaiming, soaking pits, soft metal melting, tinning wire strip and sheet, tool dressing, tube brazing, vitreous enamelling and welding.

Truck Service for Contractors.

A new sort of service for contractors and others is announced in the advertising columns of this issue by the Farber Contracting Co., North American Building, Philadelphia, Pa. This organization has large numbers of motor trucks of from one to seven tons capacity which are always available to do hauling for contractors engaged upon any kind of a job and at any location. The trucks include dump bodies or stake bodies so that they can handle any kind of materials and, as their owners state, they can go anywhere. The advantages of this kind of service to contractors who may not have their own trucks or who may be short of trucks is apparent. It offers immediate facilities in time of need.

Westinghouse Appointments.

R. W. Everson, sales manager of the Mexican branch of the Westinghouse Electric International Company, has been appointed district manager of the Atlanta office of the Westinghouse Lamp Company, succeeding Julien Binford, Jr., resigned. Mr. Everson has been associated with the Westinghouse industries for more than 24 years and has held a number of important positions. Several changes are also noted in the organization of the Westinghouse Electric & Manufacturing Company, thus: F. R. Kohnstamm, acting manager of the domestic heating section of the merchandizing department, has been made manager, and E. W. Knight, acting manager of the fan section has been appointed manager. A. G. Crocker has been appointed power representative in the Detroit office and Clifford G. Hillier has been appointed manager of the merchandizing division of the Boston office.

Important Engineering Contracts.

The building contract for remodeling part of the old mill for the Bates Manufacturing Co., Lewiston, Maine, has been awarded to the McNally Building Co., of Framingham, Mass., to be executed under the supervision of Lockwood, Greene & Co., engineers, 24 Federal St., Boston, Mass. Other important work upon which this firm of engineers and architects are now engaged includes the erection of a one-story brick, steel and timber, saw tooth extension to the Liberty building of the Locomobile Company of America, Inc., Bridgeport, Conn., and the erection of a four-story and basement factory building, 175 by 72 feet, by Jenkins Bros., valve manufacturers, also at Bridgeport. The extension of the Locomobile plant, it is stated, results from its acquisition by W. C. Durant, president of the Durant Motors, Inc., who will continue present production and is enlarging facilities for the manufacture of Mason automobile trucks there.

Many Contracts Under Way by Carolina Firm.

Hamlet, N. C.—The Carolina Construction Co. is engaged in fulfilling a large number of construction contracts in various cities of the state. It has just completed a \$300,000 new State School for the Blind at Raleigh for which James A. Salter was the architect. Recently it completed a \$100,000 project for the State of North Carolina at Samarcand. Linthicum & Linthicum, Raleigh, were the architects. Work is proceeding steadily on a \$75,000 Normal School at Pembroke. At Wadesboro a \$100,000 High School is under construction; J. W. Wilkins & Co. architects. Likewise a \$75,000 hospital for the Oxford Orphanage is under way after plans by C. C. Cook, architect. A new High School has just been completed at Apex costing \$75,000, plans for which were prepared by J. M. Kennedy. A \$50,000 Presbyterian Church at Hamlet is being built by the same firm, the architect being H. D. Harrall.

Budget Control of Business.

"Budgeting for Business Control" is the caption of a pamphlet issued by the fabrication department of the Chamber of Commerce of the United States, Washington, D. C., for the use of business men. Among the advantages of budgeting are noted these: Every one in an establishment will have a definite goal to attain; sales and production plans can be co-ordinated with financial resources; more continuous operation and greater regularity of employment can be provided; products, processes and equipment can be standardized; costs can be used for purposes of control; reduction of waste will be encouraged. The pamphlet asserts that the object and purpose of a budget is to secure internal control of a business. A manufacturer takes a big step forward if when beginning a year he charts his course as far as possible by compiling a budget.



Caterpillars prevent a bad accident

The two trucks pictured above recently had a harrowing experience from which every farsighted truck owner may learn a valuable lesson. This experience is related in the following letter from the Fidelity Storage and Warehouse Company of Philadelphia to whom these trucks belong.

"These trucks were on a trip to Kingston, N. Y., fully loaded, and while going up Bear Mountain, the driver of truck No. 1, a 5-ton Pierce Arrow, which is equipped with a tire other than your own, encountered serious difficulty in pulling the hill, finding it necessary to stop.

"Upon attempting to re-start, he found that the truck had sunk a considerable distance in the mud, making it impossible to proceed; every attempt to start caused the wheels to spin and at each effort the truck would slide backwards until it was about a foot and a half from the edge of the mountain. Further effort to move the truck forward would have caused it to tumble over the side of the mountain.

"The driver of truck No. 3 noticing the peculiar predicament in which the other driver was placed, backed his truck, a 3½-ton Pierce Arrow equipped with your Caterpillar Tires, and attached a tow line to the other truck. With very little effort he was able to pull this truck out of the mud, not having used any chains, and depending entirely upon the traction which your Caterpillar Tires were able to give."

Lack of traction is costly. It wastes time, power, gas and oil. It is also dangerous. It may cause you a bad accident sometime. But there is no need either to put up with the waste or to risk the danger, because you can make your trucks almost traction-perfect by equipping them with Caterpillar tires.

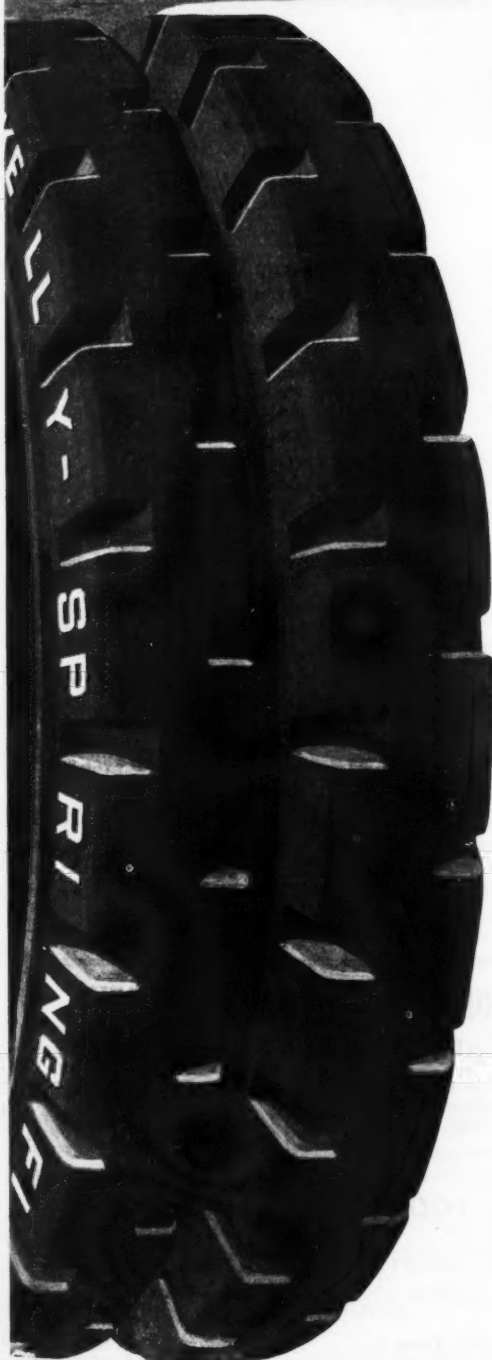
Caterpillars are made in sizes suitable for trucks of every type and weight

Kelly-Springfield Tire Co.

GENERAL SALES DEPARTMENT

250 West 57th Street

NEW YORK, N. Y.



This Farmer's View of Labor is Exactly in Line With What the Manufacturers Record Has Stated Over and Over Again as Its View.

S. H. Gaitskill
Breeder of

Shorthorn Cattle and Duroc Hogs
McIntosh, Fla.

Editor Manufacturers Record:

In your issue of November 9 you discuss labor, wages, etc.; the negroes leaving the South and the reason therefor, and you seem to conclude that the farmer must pay higher wages.

In the last issue of the Digest—the "living wage" is discussed and Mr. John D. Rockefeller, Jr., is quoted on the eight hour day, etc. I wonder what was the length of the working day of John D. Rockefeller, Sr., when he was working hardest. Mr. John D. Rockefeller, Jr., makes me think of a remark made by a son to a father in regard to a contribution to a charity or some of the begging institutions. The father said to the son, in substance: "How can you subscribe so much? I cannot subscribe that amount". The son answered, "The difference is I have a rich father and you didn't."

Does John D. Jr., know anything about real work, as his father once knew it? The Jamaican has a proverb—"The rock in the river bottom don't know the sun is hot."

As to the Southern farmer paying higher wages. Where is he to get the where-withal to pay wages, except from the products of his farm? Now, take a careful account of all the products of his farm, and then say where he is to get money to pay out for higher wages. The facts are easily shown that he does not now, with present wages and long hours, get enough for his products to pay the costs of production—and the farmer is just as much entitled to short hours and leisure and a profit as any line of work, or any other laborer.

The living wage? What a farce! Take the Western farmer who makes the food for the factory, mill or railroad laborer. See what his wheat, corn, cattle and hogs cost him and compute the living wage for that farmer. You won't find it, although he starts early and works late, and sometimes runs a tractor at night, in his efforts to produce crops at a profit. How long can this last? The labor of the agricultural implement factory is paid by the farmer and the farmer must work in rain and sunshine, snow and sleet and from "can to can't," as soon as he can see, and as late as he can see, and as late as he can see, and he sees the workman, that fashions his plow, hoe, wagon, mowing machine and what-not, and must get his wages out of what the farmer pays for this implement, working under shelter and demanding that he receive a *living wage* for eight hours work!

The common section hand that lazily shovels dirt and

spends a good part of his time in rattling his shovel against the rail, now being dignified as a "maintenance of way" laborer, he gets his pay out of the farmers wheat, corn, cotton, cattle and hogs and other farm products, even to fruits and vegetables, and he with no responsibilities—nothing to give his mind worry that will interfere with his sleep. He now is terribly over-worked and demands shorter hours and more pay!

The Digest gives consideration to railroad labor, coal mine labor and factory labor, but never a word about the farmer and his labor. Think of it! The basic business, the business that produces food and clothes for all other kinds of business, *ignored!*—The farmer can easily make all others get hungry and go insufficiently clothed, yet produce enough for his own comfort. If the world—this United States world of ours—should give special thought to the proper maintenance of any one industry, any one class, it should in self-protection be the farmer. But he seems to be classed as the "hewer of wood and drawer of water"—as dumb, driven cattle, that won't stampede, nor kick, but simply bend his neck to the yoke and pull it! Possibly he will, but I think it is time for others to be taking thought.

S. H. GAITSKILL.

Oil Well Pumping Problems.

R. R. Templeton, petroleum engineer, attached to the Bartlesville, Okla. station of the Bureau of Mines, has concluded the experimental work on oil-well pumping problems which he has been conducting in California for some months. Mr. Templeton has begun a comprehensive collection of proved oil well pumps, pumping equipment and other devices employed in the production of oil. This collection of equipment will be used for study and later will be placed on exhibition at the Bartlesville station. A large number of manufacturers have signified their intention to furnish equipment for this purpose. Companies furnishing the equipment have been requested to give and are giving a record of its performance in actual use. The purpose of the investigation is to assist operators in their production problems, by acquainting them with the various types of equipment and results obtained by operators in other districts who have successfully handled problems similar to their own. Certain experimental work on pumping equipment will also be carried out.

Community and Memorial Hall for Okmulgee.

Okmulgee, Okla.—Various civic organizations here have recommended a community and memorial hall to cost \$175,000. Tentative plans call for erection of a two story building of brick and terra cotta, 140 by 120 feet, with an auditorium having a seating capacity of 2400. Eight or ten rooms for the use of the various organizations would also be included.

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For Bank, Mill, Mine, Factory and Commercial House
8 1/2 x 11—Full 20 lb. Weight

1000—\$5.35	5000—\$16.75
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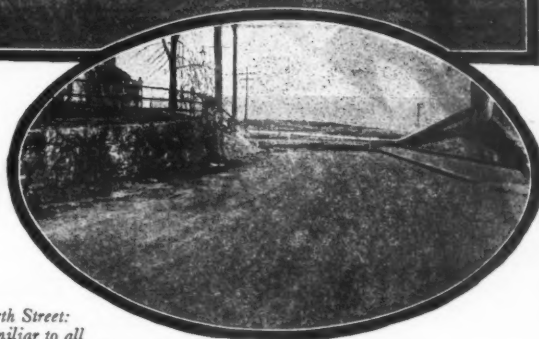
Charlotte, N. C.



Court Street: The original "Tarvia-X" street built in 1909 and still a credit to the town.



Civic Center: An example of "Tarvia-X" construction and maintenance, originally built in 1910.



North Street: Familiar to all the pilgrims to Plymouth Rock as a Tarvia street for the last 13 years. In addition to pleasure traffic it has taken the teaming from Plymouth wharves.



THIRTEEN years is a short period in the history of Old Plymouth. But it is a long time for inexpensive pavement to withstand the wear and tear of modern traffic, with next to no maintenance.

Mr. Arthur E. Blackmer, Superintendent of Public Works, writes:

"Our experience with Tarvia covers a period of consistent use for thirteen years—The town now has thirteen miles of Tarvia macadam.

"At the recent tercentenary celebration, held in the summer of 1921, over a million strangers visited this historic town, and Tarvia again proved its worth by satisfactorily protecting the roads even though subjected to the consequent unusual traffic."

Plymouth has found through long experience that Tarvia construction insures maximum mileage of well-paved streets—that its moderate first cost permits a more extensive paving program, and its economical maintenance materially reduces the annual upkeep expense.

Not only in Plymouth, but in countless other cities and towns throughout the country, Tarvia is saving money for the taxpayers and providing better streets for all kinds of traffic.

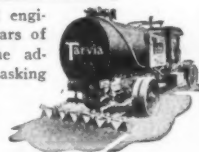
Illustrated booklets descriptive of the various Tarvia treatment sent free upon request to nearest office.

Tarvia

**For Road Construction
Repair and Maintenance**

Special Service Department

This company has a corps of trained engineers and chemists who have given years of study to modern road problems. The advice of these men may be had for the asking by anyone interested. If you will write our nearest office regarding your road problems, the matter will be given prompt attention.



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Detroit
Peoria
Youngstown
Baltimore
Chicago
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Atlanta
Toledo
Omaha
Philadelphia
Birmingham
Duluth
Columbus
Jacksonville
Boston
Kansas City
Milwaukee
Richmond
Houston
Montreal

The **Barrett Company**
Toronto Winnipeg Vancouver

St. Louis
Minneapolis
Bangor
Denver
St. John, N. B.
Cleveland
Dallas
Washington
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San Francisco
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ALABAMA

Industry's Opportunity

ALABAMA RANKS FIRST

An invigorating climate throughout the State is one of the great and attractive advantages in inducing the man who labors to remain within its borders. An average temperature for the year of 60 to 70 degrees, with practically no extremes, makes for an ideal working climate.

The river systems of Alabama perhaps have no equal in America from the standpoint of continuous supply of water for manufacturing purposes.

Ten large railroad systems give Alabama manufactured products trunk line shipping facilities to all markets of the country, as well as shipping connections to all foreign markets.

Raw materials in abundance are found in close proximity to manufacturing plants. Dependable and cheap supplies of coal are at your door. Large quantities of by-product gas is available at fair rates.

A large hydro-electric system, with more than ample steam reserves, provides dependable primary power in capacities for the largest industries.

**ALABAMA IS TRULY THE LOGICAL LOCATION FOR YOUR NEW PLANT
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A Constructive Banking Policy Is an Aid to Prosperity

A fact which is so axiomatic it is almost needless to be repeated. It is sufficient to say that the policy of this bank is to render modern banking service of the best form. Its success in pleasing 15,000 customers is an evidence of the course pursued.

Correspondence invited.

BALTIMORE COMMERCIAL BANK

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Pratt Street and Market Place, Baltimore, Md.

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We Buy Bonds

and invite inquiries from municipalities and contractors

We deal in city, county, district, school, road, lighting, water works and other municipal issues.

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We want to buy bonds issued by cities, towns, counties, school, road or drainage districts that you may be able to take in exchange for work. Address us at our nearest office.

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Liberal discount to investors buying First Mortgage 8% notes on moderate priced homes in the rapidly growing City of Tampa, the commercial, financial and industrial center of South Florida. Communications confidential. Address:

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CHICAGO, ILL.

COUNTY
SCHOOL

MUNICIPAL
BONDS

CITY
DISTRICT

CORRESPONDENCE INVITED FROM OFFICIALS & CONTRACTORS

Would Vote on \$573,000 Bond Issue.

Falls Church, Va.—The Arlington Good Roads Association has petitioned Judge Brent to set a date for a special election to vote on the proposed bond issue of \$573,000 which would provide for two through routes from the District Line through Ballston and Clarendon to the Key Bridge, over the Wilson Boulevard or through Hatfield to the Highway Bridge, and another route from the western end of the county over Columbia Pike to the Highway bridge. Under such a system of roads as is contemplated any part of the county would be accessible to motors.

Begin Construction on Nelson Mill.

Lenoir, N. C.—The Nelson Cotton Mill Co. has begun construction of its plant here, it being the seventeenth to locate in Caldwell County. It will be erected just west of the Whitney Cotton Mill on which satisfactory progress is now being made. The Nelson Mill will have a total of 6000 spindles, and about 150 operatives will be engaged in the production of yarn.

\$375,000 in Street Paving at Bristow, Okla.

Bristow, Okla.—This city is spending nearly \$375,000 on street paving and when this work is completed Bristow will have a large mileage of improved streets. Most of the new work consists of vitrified brick laid on a concrete base. Several streets have been opened to traffic after completion of the new pavement.

A contract has been let for the construction of 10 miles of concrete highway from Poplar Bluff to Fisk, Mo. The cost is \$329,000.

New Arrangements for Milk Shipments

In co-operation with dairymen and shippers of milk the Baltimore & Ohio Railroad Company through its "Milk-Cream Department," has begun a new method of payment for milk shipments so that shippers may forward dairy products under a collect waybill, thus affording opportunity for collection at destination. This arrangement supplements the former method of paying the transportation charge at the shipping point.

The company has also introduced a new system of invoice waybilling for the return of empty milk cans, a complete record being kept of them from the dealer back to the shipper showing the exact time they are delivered to the railroad for forwarding.

These arrangements are part of the company's general program to aid greater dairy development, under which it has also, through the same department, co-operated in the location of collecting stations in the country for city distributors and besides has helped dairy producers to find markets for their products.

Hosiery Mill Begins Operations.

Bristol, Va.—The Teneva Hosiery Mill, capitalized at \$75,000, have begun operations in this city. S. M. McCracken who is the owner of the Riceville Hosiery Mill of Riceville, Tenn. is manager of the new plant. About 125 operatives will be engaged when the plant is operating at capacity. It will specialize on a production of children's sport hose, the daily output of which will be about one thousand dozen pairs.

The Southern Spindle & Flyer Co., Charlotte, N. C. has increased its capital from \$15,000 to \$115,000.



PROPOSALS

BOND ISSUES
BUILDINGS
PAVING
GOOD ROADS

Bids close January 9, 1923.

PROPOSALS FOR FUEL OIL.—Sealed proposals will be received at the office of the General Purchasing Officer, The Panama Canal, Washington, D. C., until 10:30 o'clock A. M., January 9, 1923, at which time they will be opened in public, for furnishing the above-mentioned fuel oil. Blanks and information relating to this Circular (1505) may be obtained from this Office or the offices of the assistant purchasing agents, 24 State Street, New York City; 611 Gravier Street, New Orleans, La.; and Fort Mason, San Francisco, Calif.; also from the United States Engineer offices in the principal cities throughout the United States. A. L. Flint, General Purchasing Officer.

Bids close December 27, 1922.

"PROPOSALS FOR OFFICERS' QUARTERS."—Sealed proposals will be received by Constructing Quartermaster, U. S. Army, Edgewood Arsenal, Md., until 11:00 A. M., December 27, 1922, and then opened for the construction of 20 sets of frame officers' quarters at Edgewood Arsenal, Md. Plans and specifications obtainable upon deposit of \$10.00, which will be refunded upon return of same in good condition. Right is reserved to accept any or to reject all bids.

Bids close December 29, 1922.

TREASURY DEPARTMENT, Supervising Architect's Office, Washington, D. C., December 7, 1922.—SEALED PROPOSALS will be opened in this office at 3 P. M., December 29, 1922, for furnishing the materials and labor required for changes on first and second floors, in the U. S. Post Office and Court House at Birmingham, Ala. Drawings and specifications may be obtained from the Custodian at the building or at this office, in the discretion of the Supervising Architect. Jas. A. Wetmore, Acting Supervising Architect.

RATE: 35 cents per line per insertion.

PUBLICATION DAY: Thursday.

FORMS CLOSE 4 P. M. Monday.

DAY LETTER: When too late to send copy by mail to reach us by 4 P. M.

Monday, forward by day letter.

THE DAILY BULLETIN OF THE MANUFACTURERS RECORD:

Published every business day; gives information about the industrial, commercial and financial activities of the South and Southwest. The Daily Bulletin can be used to advantage when copy cannot reach us in time for publication in the Manufacturers Record before bids are to be opened, or when daily publications are necessary to meet legal requirements.

The same rate applies—35 cents per line per insertion.

Bids close December 27, 1922.

TREASURY DEPARTMENT, Office of the Supervising Architect, Washington, D. C., November 29, 1922.—Sealed Proposals will be opened in this office at 3 P. M., December 27, 1922, for the construction, including mechanical equipment, of the United States Post Office, at Leesburg, Virginia, drawings and specifications may be obtained from the Custodian of the site at Leesburg, Va., or at this office in the discretion of the Supervising Architect. Jas. A. Wetmore, Acting Supervising Architect.

Bids close December 30, 1922.

U. S. ENGINEER OFFICE, HUNTINGTON, W. VA., November 29, 1922.—Sealed proposals will be received here until 11 A. M., (Eastern time) December 30, 1922, and then opened, for constructing a Fire-proof Powerhouse at Dam No. 30, Ohio River. Further information on application.

Bids close December 30, 1922.

U. S. ENGINEER OFFICE, Florence, Alabama.—Sealed Proposals will be received here until 11 A. M., December 30, 1922, and then opened, for the construction and delivery of one 15-inch dredging pump for dredge PETTUS. Further information on application.

Bids close December 22, 1922.

\$35,000 6% Bridge Bonds

Vero, Fla.
Sealed bids for \$35,000 bonds of Quay Bridge District will be opened at two o'clock P. M., on December 22, 1922, at Vero, Fla. All bids must be accompanied by certified check for \$1000 payable to Quay Bridge District as evidence of good faith. said bonds consist of thirty-five (35) \$1000 coupon bonds dated December 1, 1922; six per cent coupons; interest payable semi-annually; both principal and interest payable to bearer at office of United States Mortgage & Trust Company, New York City, N. Y. Bonds mature serially from 1924 to 1945.

For further information address J. S. McClintock, Secretary, Vero, Fla.

Bids close December 28, 1922.

Resurfacing Streets

Mobile, Ala.
Bids will be received by the Board of City Commissioners of the City of Mobile for resurfacing with either Asphalt, Warrenite Bitulithic Asphaltic Concrete Type No. 1 and Asphalt Concrete Type No. 2, until noon, December 28, 1922.

45,868 Square Yards of one and half inch surface.
45,868 Square Yards of one inch binder.
Plans and specifications can be had at the office of the City Engineer. The right is reserved to reject any or all bids.
R. V. TAYLOR, Mayor,
WRIGHT SMITH, City Eng.

Bids close December 26, 1922.

U. S. ENGINEER OFFICE, WILMINGTON, N. C., November 26, 1922. Sealed proposals will be received here until 12 M., December 26, 1922, and then opened for constructing one 60-foot by 22-foot by 4-foot steel barge. Further information on application.

Bids close December 19, 1922.

\$2,000,000 4½% Bonds

Richmond, Va.

Sealed bids will be received by the Committee on Finance of the Council of the City of Richmond, Va., in Room 312, in the City Hall, until 8 o'clock P. M., on Tuesday, December 19, 1922, for the purchase of the following described bonds of said City, viz.:

\$750,000 Sewer Bonds, dated January 1, 1923, payable January 1, 1937, and bearing interest at the rate of 4½% per annum, payable semi-annually on January 1st and July 1st.
\$300,000 Water Works Bonds, dated January 1, 1923, payable January 1, 1937, and bearing interest at the rate of 4½% per annum, payable semi-annually on January 1st and July 1st.
\$250,000 Gas Works Bonds, dated January 1, 1923, payable January 1, 1937, and bearing interest at the rate of 4½% per annum, payable semi-annually on January 1st and July 1st.
\$500,000 Public Improvement Bonds, dated January 1, 1923, payable January 1, 1937, and bearing interest at the rate of 4½% per annum, payable semi-annually on January 1st and July 1st.

All of the bonds will be of the denomination of \$1000 each and in coupon form, payable to bearer, with the privilege of registration as to principal only or as to both principal and interest. Principal and interest will be payable at the office of the City Comptroller or (unless the bonds be registered) at the office of the fiscal agent of the City of Richmond in the City of New York.

Bids should be enclosed in a sealed envelope marked "Proposal for Bonds" and addressed to H. C. Cofer, City Comptroller, Room 103, City Hall, and must be accompanied by a certified check upon an incorporated bank or trust company for 1½% of the face amount of the Bonds bid for. For further information apply to the Comptroller.

The right is reserved to reject any and all bids.

The successful bidder will be furnished with the opinions of Messrs. Reed, Dougherty and Hoyt, of New York City, that the bonds are valid and binding obligations of the City of Richmond. The bonds will be prepared under the supervision of the United States Mortgage and Trust Company, of New York City, which will certify as to the genuineness of the signatures of the City Officials and the seal impressed thereon.

BARTON H. GRUNDY, Chairman,
Committee on Finance.

Bids close January 9, 1923.

Water Works and Electric Lights

Cherryville, N. C.

Sealed proposals will be received until 11:00 A. M., on the 9th day of January, 1923, at the office of the City Clerk, at Cherryville, N. C., for furnishing labor and materials for constructing extensions to the present water works systems and for constructing a white water system in the Town of Cherryville.

All bids will be accompanied with a certified check for 5% of the bid and the right is reserved by the Town to reject any or all bids.

J. M. CROCKER, City Clerk.
THE CAROLINA ENGINEERING CO.,
Engineers.

Bids close January 20, 1923.

Brick School

Cottage City, Md., Dec. 2, 1922.

Sealed proposals will be received and opened January 20, 1923, at 8 o'clock P. M., at the residence of Victor E. Peterson, 6 Ross Street, Cottage City, Md., for erection of an up-to-date one-story, four-room-and-basement brick school building; to be located at Central Avenue near Spa Street, Cottage City. Plans and specifications may be obtained from C. M. Lighthown, Cottage City, upon deposit of \$10 to insure return. BY AUTHORITY OF BOARD OF EDUCATION OF PRINCE GEORGE'S COUNTY, MD.

Bids close December 20, 1922.

Sewers

DEPARTMENT OF PUBLIC IMPROVEMENTS.

SUB-DEPARTMENT OF HIGHWAYS ENGINEER.

Baltimore, Md., December 6, 1922.

Sealed Bids or Proposals for the construction of Lateral Sewers in Districts 31-C, 33-A and 49-G, as outlined in Sanitary Contract No. 194, comprising approximately:

2,950 lin. ft. 15" Vitrified Pipe Sewer.
3,225 lin. ft. 12" Vitrified Pipe Sewer.
190 lin. ft. 10" Vitrified Pipe Sewer.
14,150 lin. ft. 8" Vitrified Pipe Sewer.
102 Manholes.

and other miscellaneous work incidental to the above, will be received until 11 A. M., on WEDNESDAY, December 20, 1922.

Proposals must be made in duplicate and must be addressed to the Board of Awards and sent to the Office of the City Register, City Hall, Baltimore, Md., accompanied by a certified check of the bidder for one thousand two hundred and fifty (\$1250) dollars on a clearing house bank, drawn to the order of the Mayor and City Council of Baltimore.

Right is reserved to reject any and all bids.

Bond in the amount of the contract price will be required for the proper performance of the contract.

Specifications and plans may be obtained at the Office of the Highways Engineer, City Hall, Baltimore, Md., on the payment of five (\$5.00) dollars, which will be refunded upon the return of the specifications and plans in good condition.

APPROVED:

(Signed) A. E. CHRISTHLF,
Highways Engineer.

APPROVED:

(Signed) H. G. PERRING,
Chief Engineer.

APPROVED:

(Signed) WM. F. BROENING,
President Board of Awards.

APPROVED:

(Signed) FRANK DRISCOLL,
Assistant City Solicitor.

Bids close December 15, 1922.

Electrically Driven Pump

Fort Myers, Fla.

Sealed proposals will be received by the City of Fort Myers, Fla., with blueprints and specifications, for one direct electrically driven centrifugal pump, motor and pump on same base, to deliver 700 gallons of clear water per minute from reservoir at plant, against a total head of 165 feet. Flooded suction pipe, eight inches diameter. Discharge pipe eight inches; length 310 feet including 140 feet vertical lift. Use of pump intermittent. Electric current alternating, three phase, 220 volts, 60 cycles. Starting switch to be included. Bids to be opened December 15th, 7:30 P. M. Right reserved to reject any or all bids.

C. P. STALEY, City Manager.

Bids close January 10, 1923.

Tennessee War Memorial and Capitol Annex Buildings

Nashville, Tenn.

Sealed bids will be received as a whole until noon January 10, 1923, by the Tennessee Memorial Commission at the office of Hill McAllister, Chairman of the building committee, STATE CAPITOL for the erection of the TENNESSEE WAR MEMORIAL AND CAPITOL ANNEX BUILDINGS.

Plans and specifications are by Edward Dougherty, of Nashville and McKim Mead and White, of New York, Associated Architects.

Application for plans should be made to Edward Dougherty, 900 Stablin Building. Accompanied by a check of \$25.00 to cover cost of the plans and specifications.

Surety Bonds for the execution of the work will be required of the contractor, according to the Tennessee code, and besides the usual conditions shall contain also a clause binding the contractor to "pay for all materials and labor used in said contract in lawful money of the United States." The amount of the bond shall be as follows:

One-half on the first two thousand dollars of contract price. Thirty-five per cent on the next three thousand dollars. Twenty-five per cent on the balance up to the amount of bid. A certified check for five per cent of the amount of the bond required shall accompany each bid. The Commission reserves the right to reject any and all bids.

Bids close December 23, 1922.

School

Carriere, Miss.

Sealed proposals will be received by the Board of Trustees of the Carriere Consolidated School District, at the School House, Carriere, Miss., until 2:30 P. M., December 23, 1922, and then publicly opened, for the erection and entire completion of a school house, to be built for the Carriere Consolidated School District, at Carriere, Miss., according to plans and specifications prepared by ALBERT G. BEAR, Architect, 303 Wells-Fargo Building, New Orleans, La.

Each proposal must be accompanied by a certified check, in the amount of Five Hundred (\$500.00) Dollars as a guarantee that, in the event of said proposal is accepted and the maker thereof awarded the contract, he will sign up the necessary agreement and execute surety bond, as required by law, within ten days of the date of award.

Proposals must be made out on forms, which will be furnished by the Architect.

Separate proposals will be received on the Plumbing and Heating from contractors who desire to figure only on that portion of the work. Such proposals must be accompanied by a certified check in the amount of Two Hundred and Fifty (\$250.00) Dollars as a guarantee that the contractor to whom the work is awarded, will sign agreement and execute bond, as required by law, within ten days from date of award.

Plans and specifications and proposal forms may be secured from the Architect, ALBERT G. BEAR, 303 Wells-Fargo Building, New Orleans, La., upon request. A deposit of Ten (\$10.00) Dollars will be required, which will be refunded to depositors, less costs of forwarding, etc., provided the plans and specifications are returned to the Architect in good condition, within ten days from date of award of contract.

Bids close December 27, 1922.

Elevated Water Tank

Kingsville, Tex.

Bids will be received by the City of Kingsville, Tex., not later than 3 p. m., December 27, 1922, at Kingsville, Tex., for the complete construction and installation of a 250,000 gallon elevated water tank for the Water Works system of the City of Kingsville, the tank and tower to have a total elevation of 90 feet.

Certified check for 5% of the amount of the contractor's bid must accompany same, as a forfeit, in case the contractor whose bid is accepted fails to make bond and execute contract in the given time.

Plans and specifications may be had from the City Clerk, City of Kingsville, Tex.

The city of Kingsville reserves the right to reject any and all bids.

Bids close January 3, 1923.

Truck Scales

Dover, Del.

Sealed proposals will be received by the State Highway Department, at its office, Dover, Del., until 2 o'clock P. M., January 3, 1923, and at that time and place publicly opened for furnishing and installing a 20-ton Howe or Fairbanks Auto Truck Scale, with platform 20x9 feet, approximately one mile south of Hares Corner on the Coleman duPont Road.

Performance of contract shall commence within ten (10) days after execution of the contract and be completed on or before March 31, 1923.

Monthly payments will be made for ninety (90%) per cent of the construction completed each month.

Bidders must submit proposals upon forms provided by the Department.

Each proposal must be accompanied by a surety bond, certified check, or money to the amount of at least ten (10%) per cent of the total amount of the proposal.

The envelope containing the proposal must be marked "Proposal for Truck Scales."

The contract will be awarded or rejected within twenty (20) days from the date of opening proposals.

The right is reserved to reject any or all bids.

Detailed plans may be seen and index plans and specifications may be obtained upon deposit of ten (\$10.00) which amount will be refunded upon return of plans and specifications in good condition at the office of

STATE HIGHWAY DEPARTMENT,
DOVER, DELAWARE.

CLASSIFIED OPPORTUNITIES

MINERAL AND TIMBER LANDS WATER POWERS, MISCELLANEOUS PROPERTIES

FIRE AND PLASTIC CLAY PROPERTY HIGH GRADE FIRE AND PLASTIC CLAY FOR SALE

Two hundred acres, situated on the main line Baltimore & Ohio Railroad, four miles east of Grafton, West Va. For particulars communicate with Fred O. Blue, Charleston, West Va.

COAL LANDS AND MINES

FOR SALE—Going coal mines—coal, oil and gas lands—timber tracts. Reports made on same anywhere. E. H. Morris, Box 518, Charleston, W. Va.

FOR SALE—Two coal properties in Virginia, located on Carolina, Clinchfield & Ohio Railway, Non-Union field. Electrically equipped. C. & O. Big Sandy rates apply to western points. Low rates to Southern points. Terms. Address Box 148, Johnson City, Tenn.

MINING PROPERTY

In W. Va., on C. & O. R. R.; 2000 acres fully equipped mines. Capacity of 500 tons of Pool No. 1; will sacrifice for quick sale. INFORMATION will be furnished responsible interested parties.

DALE THOMAS

603 Charleston National Bank Building
Charleston, W. Va.

FOR SALE—Arkansas Coal Property. Two going mines, one steam and electrically equipped, with production of 350 to 400 tons daily. Can be put to 700 tons with present equipment. 200 acres favorable lease, 100 acres fee. 45-inch seam with dirt band for machine mining. Analysis 14640 B. T. U. Address No. 6089 care Manufacturers Record, Baltimore, Md.

For Sale: Coal Mine—Located joint line Louisville-Nashville and Southern Rys. Fully equipped, now producing 150 tons daily, operating 36-inch Jellico seam. Excellent opportunity factory desiring dependable supply high grade coal. Price \$14,000.00. Terms if desired.

For further particulars address Dr. E. A. Guynes, 513 Walnut St., Knoxville, Tenn.

TIMBER

TIMBER AND LOGS

Red Cedar, Forked Leaf, White Oak, Ash, and Hickory Logs, cut lots. Large tracts timber Hardwood or Pine. S. J. Burkitt, General Delivery, Little Rock, Ark.

From 15 to 17 million feet timber, principally original pine and oak; large, tall, smooth, straight, high-grade, on level land, between Richmond and Washington; 8 miles level road to station; freight rates low to all northern and eastern cities, \$90,000. Most of this pine and white oak will cut 60 feet clear length. Lafayette Mann, 123 N. Eighth St., Richmond, Va.

STANDING TIMBER FOR SALE—Approximately 10,000,000 feet as follows: 3,250,000 feet Oak, about 90% White Oak, 1,000,000 feet Poplar, 500,000 feet Forest Pine, and 5,250,000 feet Second Growth Pine.

This is handsome timber. Most of it large, tall, smooth and straight. Situated in Charlotte County and Halifax County, Virginia, lying between the Virginian Railway and the Norfolk & Western Railway, being two miles distant from each railway, and taking favorable freight rates to the north, east and west. The haul to one railway is over an improved sand clay road.

This timber stands on about 1400 acres. Logging conditions are excellent. Price reasonable. Terms liberal. Personal investigation invited. Address No. 6105 care Manufacturers Record, Baltimore, Md.

RATES AND CONDITIONS

Rate 30 cents per line per insertion. Minimum space accepted, four lines. In estimating the cost, allow seven words of ordinary length to a line. When the advertisement contains a number of long words, proper allowance should be made. Terms: Invariably cash with order; check postoffice or express order or stamps accepted. No display type used. Questionable or undesirable advertisements will not be accepted. The assistance of our readers in excluding undesirable advertisements is requested. We reserve the right to refuse any advertisement. No patent medicine, oil or mining stock advertisement accepted. Rate for special contracts covering space used as desired within one year as follows: 100 lines, 25c. per line; 300 lines, 26c. per line; 500 lines or more, 25c. per line.

FARM AND TIMBER LAND FLORIDA—Timber, Colonization and Fruitland tracts; any size; best in Florida. Maurer Company, Orlando, Fla.

Florida Timberland, 83,000 acres, on harbor, priced for quick sale, \$8.00 acre. WYOMING, 13,019 acres, for irrigation, magnificent colonization project, for sale account of death, attractive development investment, unusual opportunity for large profits, \$12.50 acre. A. M. Riedesel, Denver, Colo.

FARM, FRUIT, AND TRUCK LANDS

ARKANSAS

FOR SALE—6000 acres of land, 18 sets new farm buildings, in Little River Drainage District, Southeast Missouri, within 1 to 3 miles of R. R. Producing over a bale of cotton per acre. (Boll weevil unknown) Large yields, corn, wheat, oats, alfalfa. Prices \$35 to \$50 per acre. Blueprint plots on request. Geo. A. Randolph, Keene, Va.

FLORIDA

FLORIDA—Did you know that Florida is developing faster than any other State in the Union? It is, indeed, a land of great resources and opportunities. Come and be one of us. No coal bills, no wintry ice or snow—just sunshine, and health, and opportunity. Send for booklet "Largest Orange Tree in the World;" we have a Home, Grove or Farm for you. Tampa-West Coast Realty Co., (Inc.) opposite Post office, "Since Before the War," Tampa, Fla.

NORTH CAROLINA

FOR SALE—50-acre farm, \$3000; 140-acre farm, \$6000. Write for particulars. J. B. Phillips, Jr., Middlesex, N. C.

SOUTH CAROLINA

Truck farms that pay dividends annually can be bought at reasonable prices here. Vegetables are shipped eight months in the year. Three and four crops are grown on the same land annually. Excellent climate and health. Plenty of labor; strikes unknown. Well organized association that sells all farm products. For particulars write, Lake Realty Company, Beaufort, S. C.

\$15,000.00. 1800 acres Beaufort County, S. C.; 1200 under wire fence. Indicated for cattle, trucking, general farming and an unexcelled game preserve. Eight tenants on place. Heavily wooded. Surrounded by salt rivers full of sea food.
N. L. Willet, Augusta, Ga.

BUSINESS OPPORTUNITIES

FOR LEASE—Office space in Rhodes Building and loft space in adjoining connecting building, fireproof, steam heated, on main thoroughfare, three blocks from center of city, especially adapted to Manufacturers' Agents, carrying stocks or samples. Let us furnish particulars as to service rates, etc. A. G. Rhodes & Son, 202 Rhodes Building, Atlanta, Ga.

BUSINESS OPPORTUNITIES

ADVERTISE—Circulars, sales letters, other advertising skillfully written; experienced collaboration with manufacturers anywhere; A-1 Southern references; folder free. VYLE, Two East 23rd., New York.

I SPECIALIZE in industrial, warehouse and business sites at and adjacent to Washington, D. C.

M. B. HARLOW, Harlow Building, Alexandria, Va. Colorado Building, Washington, D. C.

Interest open in Marine Transportation and Commission Company. Business enough from South to earn \$300,000 Net Annually, 25% on capital invested. Alfred S. Perry, Perry Building, Fairfield, Conn.

If interested in the BEST SECTION OF THE SOUTH If you want a Cotton Mill, or Southern Mill Stocks or Investment in Central Real Estate or Large Suburban Development property or a Manufacturing Site Address

F. C. ABBOTT & COMPANY, Trust Building, Charlotte, N. C.

GOLD MINE PROPERTY

Wanted capital to develop a Gold Mining property in North Carolina. For particulars address J. H. Thain, Shelby, E-I, North Carolina.

FINANCIAL

BONDS—Have buyers for manufacturing, mercantile, industrial, mining; entire issues. A. W. Johnson, 212 Mass. Bldg., Kansas City, Mo.

The Fraudulent gold basis "Federal Reserve Act" destroys the control of our Government over its money system and is a ruinous betrayal of the people by Congress. Read its exposure and the Remedy in "Democracy vs. Plutocracy," by T. Cushing Daniel. Popular Edition, 25 cents. The Monetary Educational Bureau, 1416 F St., Washington, D. C.

CAPITAL WANTED—To finance high-class meritorious going Coal Mines by bond issue about \$500,000. A. M. Riedesel, Denver, Colorado.

I have addresses of 5000 big brokers, who have plenty of money to finance dividend paying securities anywhere.

B. Yorkstone Hogg, Fort Pierce, Fla.

COLLECTIONS

Past due accounts collected promptly on commission basis—send us statements—no collection, no charge. Remit on day of collection. Rate card on request. Correspondents in all cities. Herbert & Co., Rand McNally Building, Chicago, Ill.

COLLECTIONS

MERRIAM,
507 FIFTH AVENUE,
NEW YORK CITY

INDUSTRIES WANTED

MISCELLANEOUS

Manufacturers come South where labor is cheap can furnish buildings, tracks, electric power and motors. Will take stock. Live town. Covington Cotton Oil Co., Covington, Ga.

Unexcelled opportunities in Cedartown for parties with some capital to organize and assume management of Underwear Mill, Brick Plant and Overall and Working Clothes factory. Abundance of raw material, cheap and efficient labor and excellent shipping facilities. Write Cedartown Chamber of Commerce, Cedartown, Ga.

INDUSTRIES WANTED

MISCELLANEOUS

FACTORIES—INVESTIGATE

Boonville, Mo., before deciding upon a location for that manufacturing plant or other industry that you may now be contemplating. Co-operation offered by Chamber of Commerce, H. C. Neef, Secy.

Swansboro, N. C., on United States inland waterway, offers unusual advantages to parties who would establish and operate ice plant. Canning house for sea foods and land crops, overall factory, or other industry. Two miles to ocean inlet. Inland waters alive with fish, oysters, shrimp, clams, scallops, crabs. Productive soil for fruit and truck. Building on waterfront offered rent free for canning factory. Address P. C. Squires, Secretary.

LIME PLANT WANTED

Wanted—To lease or purchase, going lime plant with hydrating equipment, in Eastern or Southeastern States. Reply with some details plant and quarry equipment. Preference given White Magnesium Lime. Address No. 6100 care Manufacturers Record, Baltimore, Md.

INDUSTRIAL PLANTS

FOR SALE

Well equipped planing mill and millwork plant, doing good business and exceptionally well located for wide distribution of its products. Asset value of plant and properties \$150,000. On account of physical condition of owner, plant can be bought outright or present owner will retain substantial investment interest with satisfactory parties. Will negotiate with principals only. \$50,000 to \$75,000 cash required, balance can be arranged upon favorable terms. Address 6103 care of Manufacturers Record, Baltimore, Md.

FOR SALE OR LEASE—Modern, three-story factory building, with electric lights, heat and elevator, in business section, on railroad. Fifteen thousand square feet of floor space. Suitable for manufacturing cigars, garments or other light industry where electric power is used. Cheap labor and current. Location: Best City in Virginia; three railroads and on Lee Highway. 140 miles southwest of Washington, D. C.—John E. Sullivan, Harrisonburg, Va.

FOR SALE—Or will consider leasing desirable two-story brick building and basement, mill construction size 42 feet by 100 feet in heart wholesale district, Wilmington, N. C., suitable for manufacturing or wholesale; fine track facilities block from railroad and river. Address Box 966, Wilmington, N. C.

FOR SALE—Fine building and manufacturing site, 1600 feet on main highway, extending back to the main line of Southern railway tract about 400 feet deep. Back of this there is 67 acres in the same tract with about 1000 feet railroad frontage. This property is two miles from the center of the City of Charlotte, N. C. Adjoining other manufacturing plants, Charlotte has a population of 60,000. Some one can clean up 50,000.00 bucks on this property. Write us for price and blueprints. Shuman Bros., owners, P. O. Box 775, Charlotte, N. C.

For Quick Sale—Five story and basement, reinforced concrete and steel building in business section of Orlando, Fla., suitable for manufacturing, cold storage or wholesale business. Freight depot opposite and tracks in building. Constructed two years ago. Floor space 45,000 sq. feet. Must be sold at once. Wire or write W. B. Crawford, Trustee, Orlando, Fla.

LIGHT AND POWER PLANT FOR SALE

In a wealthy Kentucky County Seat of 3000 population, located 175 miles south of Cincinnati on main line of R. R. Power House just rebuilt. Just installed 2 new engines direct connected to two new Westinghouse, 2300 volt, 3 phase alternators, also new 5 panel switchboard. Modern Electric Shop. 24-hour service. Just granted new franchise and street lighting contract both for 20 years. Receipts run \$1800.00 per month. Entire investment represents \$45,000.00. Owner will take \$7500.00 down and let plant pay out balance. H. W. Mayfield, 701 Provident Bank Building, Cincinnati, Ohio.

FACTORY SITES

BALTIMORE

FACTORY

SITES

William Martien & Company,

1413 Lexington Bldg.,

Baltimore, Md.

Factory site, with or without wharf, of about six acres, double railroad track on wharf, for sale or lease.
Hastings Bros., Norfolk, Va.

PATENT ATTORNEYS

PATENTS—Booklet free. Highest references. Best results. Promptness assured. Watson E. Coleman, Patent Lawyer, 624 F St., Washington, D. C.

PATENT SENSE

"The Book of Inventors and Manufacturers." FREE. WRITE LACEY & LACEY, Dept. 15, Washington, D. C. Est. 1869.

INVENTORS—Send sketch or model of your invention, for opinion concerning patentable nature, and exact cost of applying for patent. Book, "How to Obtain a Patent" sent free. Gives information on patent procedure and tells what every inventor should know. Established 25 years. Chandler & Chandler, 412 7th St. N.W. Washington, D. C.

PATENTS, TRADE-MARKS AND COPYRIGHTS—Write for our Free Illustrated Guide Book and EVIDENCE OF CONCEPTION BLANK. Send model or sketch and description of your invention for our opinion of its patentable nature free. Highest references. Prompt service. Reasonable terms. Victor J. Evans & Co., 712 9th St., Washington, D. C.

AGENCIES WANTED

MANUFACTURERS REPRESENTATIVE established office with large selling force solicits accounts for the Carolinas. Address C. E. Rogers, Greensboro, N. C.

SITUATIONS WANTED

SALES ENGINEER—Age 31, qualified by twelve years engineering and one year sales experience desires connection with manufacturer of industrial equipment or machine tools. Six years devoted to industrial equipment exclusively. Prefer Southern location. References furnished. Address P. O. Box 1703, Birmingham, Ala.

ASPHALT chemist with several years experience in the manufacture and laying of different types of bituminous pavements, desires permanent position with some municipality of contractor. References from City Engineers. Address 6107 care Manufacturers Record, Baltimore, Md.

MEN WANTED

Wanted Salesman, qualified to act as Division Sales Manager in Southern States. Product to be sold. Steam Shovels. Give full details as to qualifications, age, experience, time of service with other employers in first letter. The Osgood Company, Marion, Ohio.

Salaried positions \$2500 to \$25,000 upward; executive, technical, administrative, engineering, manufacturing, professional, managing, financial, etc., all lines. If you are qualified, and receptive to tentative offers for a new connection, you are invited to communicate in strict confidence with the undersigned, who will conduct preliminary negotiations for such positions. A method is provided through which you may receive overtures in confidence, without jeopardizing present connections, and in a manner conforming strictly to professional ethics. Send name and address only; preliminary particulars will be sent without obligating or compromising you in any way. R. W. Birby, Inc., 403 Lockwood Building, Buffalo, N. Y.

MEN WANTED

A high-class LEATHER BELTING manufacturer requires representative for Southern States. Experience necessary. Good remuneration for right man. Address No. 6104 care Manufacturers Record, Baltimore, Md.

WANTED—A man of executive ability to participate in the manufacture and marketing of a new anti-freezing device which can be used on auto pleasure cars and trucks. Never before used for this purpose. Eliminates blankets, hood covers and heated garages. A tremendous field for sales. Will require about \$10,000 cash. Write for particulars if you mean business. Address J. P. Clifton, Blanchester, Ohio.

Manufacturers of a superior line of composite lighting fixtures for theaters and public buildings, also portable fountains, lamps and candlesticks, cement garden furniture, etc., need salesmen to handle their goods. Liberal commissions and exclusive territories to experienced men. Write for information. NATIONAL PLASTIC RELIEF CO., Cincinnati, Ohio.

Salesmen, calling on general and plastering contractors, to represent company manufacturing complete line of stock and special plastic composition mouldings, brackets, capitals, grilles, etc. Exclusive rights in restricted territories and liberal commissions to those who qualify. Write for full information. NATIONAL PLASTIC RELIEF CO., Cincinnati, Ohio.

Mechanical Engineer Wanted—Familiar with steel plate construction, also structural work. Must be able to take charge Engineering Dept. and experienced in Shop methods necessary. Responsible position. Address No. 6106 care Manufacturers Record, Baltimore, Md.

EXECUTIVES

Qualified men—Technical, Commercial or Manufacturing—seeking new positions find our effective and confidential service extremely satisfactory. Our Mr. H. H. Harrison can negotiate a suitable connection for you as he has done for thousands of others since 1909. Inquiries invited; confidences respected.

THE NATIONAL BUSINESS BROUSE, Inc. Confidential Negotiators Association Building, Chicago.

LIME

Twin Oaks Lime & Stone Co., Tazewell, Va., announce that their new modern steel lime plant is now complete and producing a beautiful white lime, free of ashes. We desire to build up a market for our lime and will put forth every effort to satisfy our customers.

LUMBER AND BUILDING MATERIAL

FOR SALE

1 car $\frac{3}{4}$ x 3—2 $\frac{1}{2}$ " Fe B & Btr. Ceiling.
 $\frac{1}{4}$ " $\frac{3}{4}$ x 3—2 $\frac{1}{2}$ " Fe No. 1 Com Ceiling.
 $\frac{1}{4}$ " $\frac{3}{4}$ x 3—2 $\frac{1}{2}$ " Fe No. 2 Com Ceiling.
2 " 32" No. 1 Kiln Dried Plaster Lath.
4 " 32" No. 2 Kiln Dried Plaster Lath.
INGRAM-DAY LUMBER COMPANY,
Lyman, Mississippi.

MACHINERY AND SUPPLIES

Valves, pipe fittings, all kinds and sizes; new stock. Can positively save you money on quantity purchases. What are your requirements? Pratt Thompson, 220 E. Lexington St., Baltimore, Md.

FOR SALE—125 foot span unloading bridge, all complete with 2 cubic yard Buffalo bucket, boiler, hoisting, traveling and shifting engines in corrugated steel house. Will unload 60 tons coal per hour. In good working order. Price complete, \$5000.00. Thomas Coal Co., No. 120 West Main St., Norwich, Conn.

FOR SALE—Laundry Machinery, Dry Cleaning Machinery and equipment, office fixtures, large cash register, hangers, pulleys, shafting. Kelley Hot Water heater systems. Large boiler and engine. Entire plant is being dismantled and sold by the piece. Wheeler & Co., Newport News, Va.

At a Stated Term of the United States District Court, Southern District of New York, held in the Post Office Building, Borough of Manhattan, City of New York, on the 23rd day of November, 1922.
PRESENT, HON. JOHN C. KNOX, United States District Judge.

AMERICAN & BRITISH SECURITIES CO., Plaintiff, against AMERICAN & BRITISH MFG. CORP., Defendant.

George C. Van Tuyl, Jr., Receiver herein, having duly moved this Court for an order authorizing and directing the sale of the assets of the defendant corporation, and said motion after successive adjournments having duly come on to be heard before me this 13th day of November, 1922, and William Dewey Loucks, Esq., appearing in behalf of the defendant corporation; Henry V. Poor, Esq., appearing for the Committee of Creditors intervening herein; Messrs. Larkin, Rathbone & Perry, appearing for Central Union Trust Company of New York, as Trustee under a certain trust mortgage, more particularly described in the petition of the Receiver herein, Messrs. Winthrop & Stimson, and Charles F. Choate, Jr., appearing in behalf of New Idria Quicksilver Mining Co. and G. W. McNear, Inc., Louis H. Strouse and William H. Griffin, appearing in behalf of the Receiver, and argument having been had and due deliberation given thereon, and the parties having consented in open court thereto.

Now, upon motion of Louis H. Strouse and William H. Griffin, Attorneys for said Receiver, it is

Ordered that all the property, assets and effects, except cash and accounts receivable, of American & British Mfg. Corporation, the defendant above named, now in the possession of the aforesaid Receiver and Ancillary Receivers herein, or any part thereof for which bids are received, be sold to the highest bidder at private sale, or written competitive bids, subject, however, to the limitations herein after contained.

Parcel A. Shall comprise all the real estate of the defendant corporation located in the District and State of Connecticut, or so much of the same as shall not have theretofore been sold, and all the right, title and interest of the Receiver and Ancillary Receiver therein more fully described as follows:

(a) "All that certain piece or parcel of land with the buildings thereon erected situated in the City of Bridgeport, County of Fairfield, and State of Connecticut, bounded and described as follows, to wit: On the north by Crescent Avenue; on the west by Helen Court, and land now or formerly of the estate of Alice O'Toole; on the south by the north line of Church Street extended to Yellow Mill Creek; on the east by Yellow Mill Creek, subject to the public right of way over Waterview Avenue, and the right, if any, of the City of Bridgeport, in and to the sewer running northerly and southerly through said premises; being the real estate described and referred to in the deed of the American Ordnance Company to the American Machine and Ordnance Company, dated August 21st, A. D. 1902, and recorded in the Bridgeport Land Records, Volume 177 of Deeds, at pages 501 and 502."

(b) "Also all that certain piece or parcel of land with the buildings thereon erected situated in said City of Bridgeport, County of Fairfield and State of Connecticut, bounded and described as follows: North on the highway known as Crescent Avenue; east on Helen Court, so called, and land formerly of Peter Beck; south on land formerly of Peter Beck and land now or formerly of Patrick Casey or Patrick Covey, and land now or formerly of Michael and John Malone, land now or formerly of Peter Caffrey and land now or formerly of the estate of John St. Leger; west on land now or formerly of Patrick Burns, being the same premises described in a certain Deed from Clayton B. Blakeslee to American & British Manufacturing Company, dated June 21, 1907, recorded in land records of Bridgeport on July 2, 1907, at 2:32 o'clock P. M., in Volume 224, at Page 137."

Parcel B. Shall comprise all the heavy or fixed machinery of the defendant corporation located in the plant or factory of the defendant corporation or elsewhere in the State of Connecticut including all the right, title and interest of the Receiver and Ancillary Receivers therein.

Parcel C. Shall comprise all the office furniture, tools, equipment and merchandise belonging to the defendant corporation located in the plant or factory of the defendant corporation, or elsewhere, in the State of Connecticut other than heavy and fixed machinery included in Parcel B.

Parcel D. Shall comprise all the real estate of the defendant corporation located in the District and State of Rhode Island, and all the right, title and interest of the Receiver and Ancillary Receivers therein, more fully described as follows:

"All that certain tract or parcel of land with all the work shops, buildings and other improvements thereon, situated in the northerly part of the City of Providence, in the State of Rhode Island, and comprising the manufacturing establishment and plant formerly belonging to the American & British Manufacturing Company, and prior to the Corliss Steam Engine Company, and more particularly bounded and described as follows: to wit: Northerly, partly by now or formerly of the Rhode Island Tool Company, and partly by West River Street; Easterly partly by said West River Street and partly by Cross, formerly Burt Street; southerly partly by said Cross Street and partly by Charles Street; westerly by the railroad formerly called and known as the Providence and Worcester Railroad, being the tract or parcel of land designated as Lot Numbered 2, on Assessor's Plot No. 76, in the office of the Assessors of Taxes in the said City of Providence, containing three hundred eighty-two thousand, four hundred seventy-eight (382,478) square feet of land, be the same more or less; also

"All that certain tract or parcel of land, situated on the southerly and westerly side of Admiral Street, in said City of Providence, and bounded and described as follows: to wit:

"Beginning at a point in the westerly line of Admiral Street, forty (40) feet northerly from the intersection of the northerly line of Chad Brown Street with said westerly line of Admiral Street; thence turning at right angles to said westerly line of Admiral Street and running westerly ninety-eight (98) feet, thence southerly on a line parallel with and ninety-eight (98) feet distant from said westerly line of Admiral Street, forty and one-half (40½) feet to the northerly line of said Chad Brown Street; thence turning and running in a westerly direction, following the said northerly line of said Chad Brown Street, five hundred and two (502) feet; thence turning and running northerly parallel with and six hundred (600) feet distant from said westerly line of Admiral Street, two hundred and forty-three and fourteen one-hundredths (243.14) feet; thence turning at right angles and running six hundred (600) feet till it comes to the westerly line of Admiral Street; thence turning at right angles and running southerly in said westerly line of Admiral Street two hundred (200) feet to the point of beginning, and containing three and two hundred and thirty-five thousandths (3,235) acres of land, except so much thereof as has been deeded to the City of Providence for highway purposes; the above two parcels being the same premises heretofore conveyed to the International Power Company by Alfred H. Hoadley, of Providence, Rhode Island, by deed bearing date the 3rd day of May, 1902, and recorded in Providence, Rhode Island, in Records of Deeds, Book 445, Page 440 on May 5th, 1902; and being the same premises conveyed to American and British Manufacturing Corporation by American & British Manufacturing Company by deed dated July 1, 1919, and duly recorded in Providence, Rhode Island, in Records of Deeds."

Parcel E. Shall comprise all the heavy or fixed machinery of the defendant corporation located in the plant or factory of the defendant corporation or elsewhere, in the State of Rhode Island, including all the right, title and interest of the Receiver and Ancillary Receivers therein.

Parcel F. Shall comprise all the office furniture, tools, equipment and merchandise belonging to defendant corporation located in the plant or factory of the defendant corporation, or elsewhere, in the State of Rhode Island, other than heavy and fixed machinery included in Parcel E.

Order that the aforesaid property, both real and personal, be sold free and clear of all liens and demands thereon, including a certain alleged mortgage made by the defendant corporation to the Central Union Trust Company of New York, as Trustee, dated October 1st, 1920.

Also a certain alleged mortgage bearing date the 19th day of October, 1920, recorded in the Bridgeport land records in book 469 in page 327 on the 22nd day of October, 1920, into the New Idria Quicksilver Mining Company, a corporation organized and existing under the laws of the State of Wyoming, and G. W. McNear, a corporation organized and existing under the laws of the State of California.

and that the proceeds arising from the sale of the real property and the heavy and fixed machinery, included in parcels A, B, D and E, or any other property on which said mortgages are liens, be held by the Receiver and the Ancillary Receivers herein, subject to claims, liens and demands of the alleged mortgagees and the holders and owners of notes purporting to be issued and secured thereunder, and that the said mortgage, liens, claims and demands attach to the proceeds arising from the sale of the said real estate and heavy and fixed machinery sold and included in parcels A, B, D and E, or any other property on which said mortgages are liens, in the same force and effect as if upon the property itself, subject to the final order, judgment and decree of this court or of a court of competent jurisdiction, as to the validity, bona fides and extent of such mortgage, liens, claims and demands, and of any bonds, notes or other obligations issued under said mortgage. And it is further

Ordered that the proceeds from the sale of real estate, property and assets of the defendant corporation located in the State of Connecticut herein described as Parcels A, B and C, shall be deposited with and held by George C. Van Tuyl, Jr., John C. Stanley and David Strouse, Ancillary Receivers in the District of Connecticut, subject to the order of the United States District Court for the District of Connecticut; and that the proceeds arising from the sale of real estate, property and assets of the defendant corporation located in the State of Rhode Island, herein described as Parcels D, E and F, shall be deposited with and held by George C. Van Tuyl, Jr., as Ancillary Receiver in the District of Rhode Island, subject to the order of the United States District Court for the District of Rhode Island, and it is further

Ordered that none of the competitive sealed bids shall be accepted by the Receiver herein, unless the same shall be accompanied by ten per cent (10%) in cash or by certified check, of the amount offered in such sealed bid; and it is further

Ordered that the said Receiver be and he hereby is duly authorized to accept bids for all or any of the parcels aforesaid, subject, however, to the approval and confirmation of the District Court of the United States for the Southern District of New York, and it is further

Ordered that the defendant corporation and its proper officers be and they hereby are ordered and directed to make, execute and deliver any and all deeds, conveyances or other written instruments necessary to convey title to any or all of the property of the defendant corporation which may be sold hereunder. And it is further

Ordered that the said Receiver be and he hereby is, subject to the approval of the United States District Court for this District, authorized to receive in his discretion in part payment upon the sale of any of the real estate hereunder, named and described in either Parcels A and D, a purchase money mortgage or purchase money mortgages executed in due form by the purchaser, and it is further

Ordered that the said Receiver shall give not less than three weeks' written notice by mail to all of the creditors of the above named defendant corporation who shall have filed their claims herein, offering a reasonable opportunity for the inspection of the property; and the said notices shall contain the terms of sale and shall also state that bids will be opened by the said Receiver at the office of Messrs. Flaherty, Turner & Strouse, No. 2 Rector Street, Borough of Manhattan, City and State of New York, at an hour and day therein stated which shall be on the 22nd day of December, 1922.

Nothing herein contained shall preclude the Receiver from negotiating and concluding, at any time prior to actual sale, a private sale of all or any part of the property of the defendant, and said Receiver may, in his discretion, withdraw any and all portions of said property from sale. All funds sold hereunder or hereby which are affected by the mortgages hereinabove referred to, shall be held by the Receivers and not distributed except upon notice to the said mortgagees.

The above order shall be subject to confirmation by the District Courts of the United States for the Districts of Rhode Island and Connecticut.

Publication hereof shall be made in at least one newspaper in the Cities of New York, Providence, B. I., and Bridgeport, Connecticut, to be selected by the Receiver; also in such trade papers and newspapers of such other cities as he may in his judgment deem advisable; such publications as to the Cities of New York, Providence and Bridgeport shall occur at least on the 4th, 11th and 18th days of December, 1922.

JNO. C. KNOX,

U. S. D. J.

NOTICE:—Under above order bids will be opened at office of Flaherty, Turner & Strouse, 2 Rector Street, New York City, December 22, 1922, at 2 P. M.

To the MANUFACTURER and DISTRIBUTOR

Abundant supplies of coal, coke, iron, timber and other raw materials lie in the regions of Georgia and Alabama, which are traversed by the

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Cheap electric power, numerous undeveloped water-powers, good home markets and excellent shipping facilities. Therefore, manufacturing conditions are ideal.

Many of the cities on the Central of Georgia Railway occupy advantageous positions for distributing warehouses, and a number of the larger northern and eastern manufacturers supply their southeastern trade from branch houses in these cities.

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J. M. MALLORY, General Industrial Agent
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Afford wonderful opportunities for industrial development and the location of plants for distribution.

THE TEXAS AND PACIFIC RAILWAY maintains an Industrial Department fully equipped to furnish information regarding resources, values of property, rentals and other information helpful to prospective manufacturers or distributors.

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Land & Industrial Commissioner
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Service our motto—Let us quote you and show how we can save you money.

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Farber Contracting Co.
No. American Bldg., Phila., Pa.
TRUCKS GO EVERYWHERE

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CATHERINE ST. and B. & O. R. R.
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Will Concrete Highways Provide a New Permanent Type of Transportation?

If so, Boonville, Missouri, has an unlimited future. Located on the Missouri River, which is now navigable. It is the Connecting Link in The Concrete Cross-State Highway—The Main Trunk Line of the Missouri hard-surfaced road system now under construction. Railroads leading out in all directions—to the Lakes, to the Coast, to the Gulf, and serving the richest agricultural and industrial territory in the West.

Boonville maintains ideal conditions for efficient labor—splendid schools, churches, municipal enterprises, etc. Its industrial growth is rapid, but substantial—a city is building.

Boonville offers co-operation and inducements for manufacturing plants and other industries to locate here. For further information submit your proposition to

H. C. NEEF, Secretary
Chamber of Commerce

FUEL IS CHEAP along the CHESAPEAKE & OHIO RAILWAY

Manufacturing locations on the C. & O. enjoy many distinct advantages.

The C. & O. lines pass through the famous New River, Kanawha, Logan, Coal River, Cabin Creek and Elkhorn Coal and Natural Gas fields of West Virginia and Kentucky—making it possible to reduce the fuel-costs of manufacturing plants all along the line.

From plants on the C. & O., goods can be shipped at lowest cost to the best markets from the Atlantic Seaboard (Norfolk and Newport

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Our Industrial Department has exact and detailed information regarding factory and commercial sites, labor conditions, housing, taxation, cost of fuel, power and raw materials, as well as rates on raw material and finished products. Inquiries are treated as confidential.

**CHEAP FUEL—EXCELLENT
WATER POWERS—NATURAL
GAS—ACCESSIBLE MARKETS
—GOOD LABOR.**

The Chesapeake & Ohio Railway Co.
Richmond, Va.

Address **K. T. CRAWLEY, Manager Industrial Department**
ROOM 15

Foreclosure and Receivers' Sale Of the Property of the Boone Fork Mfg. Co.

Two complete band saw mills, electric driven, with a capacity of 60,000 feet each per day, with power plants, railroads, railroad equipment, machine shops, logging machinery and equipment, by-product plants and planing mill. These properties are in first-class order and ready to operate, with excellent hardwood timber reserves, a majority of which are owned in fee.

One of these mills is situated at Shulls Mills, Watauga County, North Carolina, and the other at Murphy, Cherokee County, North Carolina.

The properties will be sold at Public Sale, to be held on the following dates:

**For Shulls Mills property at Boone,
North Carolina, on January 5, 1923**

**For Murphy property at Murphy,
North Carolina, on January 9, 1923**

TERMS REASONABLE

Apply to Receivers for catalogue giving terms and a description in detail of the properties, buildings, equipment, supplies, etc.

John A. Hambleton	} Foreclosure Receivers.
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The following is a partial list of what we are offering:—

- 1—250'x160' Building—All columns and roof trusses steel.
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- 1—Steel crane.
- 7—Thomas "B" frame double drum electric hoists.
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- 1—Davis Bournsville Acetylene Generating Plant Cap. 300 cu. ft. gas per minute.
- 4—12"x8"x24" Worthington vertical Simplex boiler feed pumps.
- 1—10"x12"x12"x12" Worthington Horizontal simplex air and generating pump.
- 7—9"x9" general ordnance, double cylinder single drum hoists.
- 11—Griscom-Russell drinking water stills.
- 4—Jewell drinking water stills.
- Steel Booms.
- Steel Masts.
- 2—Double steel smoke stacks.
- 1—600 sq. ft. American Engineering Condenser.
- 6—1000 H.P. Boilers.
- 1—Baldwin-Altoona Locomotive.

together with steel blocks, steel wire rope, ship hardware, valves, switches, switch boards and other materials too numerous to mention. Write for catalogue today.

H. Klaff & Co.

Central Ave. & Gough St. **WILMINGTON, N. C.**
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Address all communications to Wilmington, N. C.

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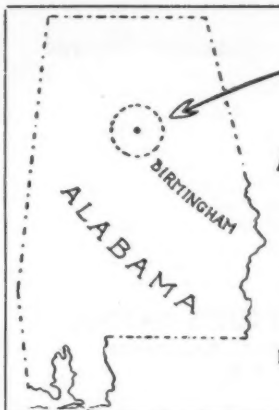
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Agencies will be on an exclusive basis with exceptionally liberal commissions. Applications will be considered only from those with well established connections for non-conflicting lines with the mechanical and operating departments of the industries in the district.

The products of the Company have unequaled claims to consideration and are sold under a rigid guarantee of superiority. Full advertising, sales and engineering assistance furnished.

Give full details in first letter.

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Sites to suit all needs on all railroads. Supplies of coal, coke, iron and steel within trucking distance.

Labor situation better than in other industrial centers. Hydro-electric power available. Equable climate.

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We are in the market for all-steel or steel underframe freight cars of not less than 40 ton capacity.

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Used Imperial XB-2 Ingersoll-Rand air compressors, 14x9x12; 16x10x14; 19x12x16 sizes. Will consider Laidlaw feather vane machines, about same sizes. Full details and prices.

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Latest improved automatic entrance gate for club house grounds, which will avoid stop for autos.

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Motors—Generator Sets; Engine—Generator Sets, Direct Connected; Mining Machines, Rotary; Converters, Motors, Generators, Mining Machines, Locomotives, Hoists, Engines, Boilers, Turbines.

Mail complete description with lowest cash price F.O.B. loading point.

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Wanted to buy 1550 feet 5-inch pipe with flanges attached. Also, 550 feet 4-inch pipe screwed connections.

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One 8x10x12 Magowan Condenser with a cooling surface of 500 square feet with 600 lbs. of water per hour.

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150 H.P., 3 cyl. vertical Rathbun-Jones gas engine. Good operating condition. Will quote attractive price.

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Fostoria, Ohio

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STEAM SHOVELS and LOCOMOTIVE CRANES

- 1—50 H.P. Scotch Marine.
- 1—50 H.P. Locomotive Type.
- 1—50 H.P. Vertical.
- 2—72x18 Horizontal Return Tubular, 150 H.P. each.
- 2—66x16 Horizontal Return Tubular, 100 H.P. each.
- 2—66x14 Horizontal Return Tubular, 100 H.P. each.
- 3—Erie Type B. Erie Steam Shovels, Special High Lift 19' 6" boom 16 ft. Dipper Handle, 3/4 yd. Dipper.
- 1—Byers No. 3 Electric Auto Crane on Traction Wheels.
- 1—5 ton Brown Hoist Locomotive Crane, 4-wheel Standard gauge; complete with bucket.
- 1—15 ton Browning Crane, Standard gauge, 4-wheel; complete with Generator and Magnet.

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12—"General Electric" 6 K.W. (300-20 Watt Lamps) Generators; direct connected to "Matthews" Gasoline Engines. With all attachments.

Self starting—New.

At one-half their cost while they last.

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Generator Sets and Pump FOR SALE

2—Chuse High speed slide valve DC Generator Sets, direct connected to 9x10 Slide Valve Steam Engines. Capacity 30 K.W.

1—Fairbanks-Morse Pump size 10x12x12. Steam driven, size of suction 10 inches discharge 8 inches.

Above machinery in good working condition. In service at present. Being discontinued account installing larger units.

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Springfield, Missouri

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15-150 H.P. Erie return tubular boilers 6'x18' with 70-4"x18" flues. Butt Strap. All complete with Stacks.
3-Sterling 500 H.P. Water tube Boilers. All complete with Stacks.

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1-Pair of 20"x30" Robinson Machine Company. Reversible 1st motion single drum hoisting engine. C. R. Welsh—overwinding device.
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1-Pair Houston—Stanwood-Gamble 20"x24".
1-16"x18" Erie—6 groove Rope Pulley.
1-16"x18" Erie double Automatic Cut-off with 73"x30"—11 Groove 1 1/2" Rope Pulley.
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2-Corliss Horizontal Steam Engines 36"x48" each. Right and left hand.

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2-Morgan Gardner—100 K.W., 250 Volts, 400 Amp, 575 R.P.M. belt driven by right and left hand 17"x18" Skinner engines.
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2-Morgan Gardner—150 K.W., 250 Volts, 600 Amp, 550 R.P.M., belt driven by 18"x18". Ball Engines.
1-Morgan Gardner—100 K.W., 250 Volts, 400 Amp, 575 R.P.M., belt driven by Russell 18"x18".

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1-Jamesville—L.P. Cylinder 12", H.P. Cylinder 10", Stroke 12".

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1-Mesta Machine Co. Compound low pressure Air Compressor. Bore of Cylinder L.P. Steam 36". Bore of Cylinder L.P. Air 34". Bore of Cylinder H.P. Steam 22". Bore of Cylinder H.P. Air 20". Stroke 48", R.P.M. 90, Pressure 100 lbs. Corliss Valve type.
1-Ingersoll-Rand Co. low pressure Imperial type No. 10 Cross Compound air compressor. Bore of Cylinder L.P. Steam 34". Bore of Cylinder L.P. Air 34". Bore of Cylinder H.P. Steam 20". Bore of Cylinder H.P. Air 18". Stroke 30", R.P.M. 100, Pressure 100 lbs. Corliss Valve type.

HOISTING ENGINES

1-9"x10" Lidgerwood D.C.D.D. and Boiler.
2-9"x12" Lambert D.C.D.D. and Boiler A.S.M.E.
1-7"x10" Flory D.C. 3 D. and Boiler A.S.M.E.
1-7"x10" Lidgerwood D.C.D.D. and Boiler.
1-7"x10" National D.C.D.D. and Boiler.
1-6"x10" Flory D.C.D.D. and Boiler.
2-30 H.P. Lidgerwood Gasoline D.D.
Skeleton Engines almost every size and make. Double and Single Drum.

LOUIS A. TARR, INC.
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**SAVE
\$3000.00
ON EACH**

Only five left, 25 KW, NEW, D. C. 115 volt, General Elec. four cylinder gasoline engine generator sets, complete to the minutest detail. Packed in original crates. Originally built for U. S. Army.

Price \$2000.00 each, subject to prior sale.

4-NEW 225 HP. Winton, full Diesel type fuel oil engines, packed in original crates. Complete with or without D.C. or A.C. generators.

About half price

NATHAN KLEIN & CO.
208 Centre St., New York

WATER TUBE BOILERS

250 to 1000 H. P.
Immediate Delivery!

New Water Tube Boilers, built for pressures of 200 lbs. and 225 lbs. ready for immediate delivery from Chicago, Dumont, New Jersey, opposite New York City, or Slidell, Louisiana, near New Orleans.

Our low prices present a saving of from 25% to 50%. We will take in your old equipment on a liberal exchange basis.

Write for our new catalog fully describing our boilers; your copy will be mailed on request.

HARRIS BROTHERS COMPANY
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Any Size or Kind
Largest stock of its kind in America.
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25 CYCLE MOTORS

1-150 HP, 500 RPM, 3 Ph, 440 V. W. H. slip-ring.
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Slightly used Electric Motors, latest types, guaranteed for all practical purposes, like new, re-finished and tested the Gregory way at a saving of from 30 to 50 per cent—are you interested?—Enormous stock—

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1-Pond 24-ft. Double Head planer 39'-0" over all, in A1 condition.

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150-KW, 2300-V, 3-P, 60-C.
Exciter and Swbd.

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3" 4 ply to 18" 10 ply.

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6" 6 ply to 24" 8 ply.

Let us submit our quotation.

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2500 H.P. 3600 RPM
2650 H.P. 3600 RPM
3000 H.P. 3600 RPM

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20 H.P. Non-condensing 3600 RPM
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80 H.P. Locomotive A.S.M.E.
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10x12x12 Worthington Horizontal Duplex
7x8x10 Deane Vertical Duplex
10x6x18 National Transit Vertical Simplex
No. 7 Single Cylinder Double action Force

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100-Ton Hydraulic Bending & Straightening Press
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3-42" Emery Mills, 2-Jaw Crushers, 3-Bolting Reels, 1-Sturtevant Boiler Mill, 2-Steam Engines, 1-Boiler.

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20, 35, 40, 50, 60, 85, 100, 120, 140, 150, 200, 225, 280 and 500 H.P. used oil engines in good condition. Write for prices.

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2-72"x18" Hor. Ret. Tub. 150 lbs. A.S.M.E.
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4-80 H.P. Locomotive Type 125 lbs. A.S.M.E.
1-80 H.P. Locomotive Type 125 lbs.

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1-150 H.P. Erie City Economic 100 lbs.
1-125 H.P. Ames Empire 125 lbs.
1- 60 H.P. Locomotive Type 125 lbs. A.S.M.E.

Many other sizes almost every type, both new and used in stock in Baltimore.

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N. W. Cor. Sharp & Conway Sts.
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- 1—B. & W., 284 H.P. Water Tube; 150 lbs. pres.
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- 14—72" x 18' Horizontal Tubular; 125 lbs. pressure.
- 2—66" x 20' Horizontal Tubular; 115 lbs. pressure.
- 1—72" x 18' Horizontal Tubular; 115 lbs. pressure.
- 1—100 H.P. Locomotive Fire Box 100 lbs. pressure.
- 1—50 H.P. Locomotive Fire Box; 90 lbs. pressure.
- 1—50 H.P. Internally Fired; 90 lbs. pressure.
- 1—30 Vertical; 110 lbs. pressure.
- 1—20 H.P. Vertical; 100 lbs. pressure.

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- 1—28" x 48" Hamilton Right Hand Corliss.
- 1—30" x 42" Ohio Right Hand Corliss.
- 1—18" x 42" Allis Right Hand Corliss.
- 1—12" x 24" Buckeye Left Hand.
- 1—12" x 24" Douglas Plain Slide Valve.
- 1—10" x 12" Chandler Taylor Plain Slide Valve.
- 1—8" x 10" Armstrong & Simms Automatic.

PUMPS

- 1—18" x 8 1/2" x 12" Duplex Steam.
- 1—14" x 10 1/2" x 10" Duplex Steam.
- 1—12" x 7" x 10" Duplex Steam.
- 1—10" x 6" x 10" Duplex Steam.
- 3—6" x 4" x 6" Duplex Steam.
- 4—5 1/4" x 3 1/4" x 5" Duplex Steam.
- 2—4 1/4" x 2 1/4" x 4" Duplex Steam.
- 1—8" x 8" Deane Triplex Single Acting Power Pump.
- 1—Kingsford Horizontal Centrifugal Water Pump. 24" suction, 24" discharge.
- 1—Plate Iron Works Horizontal Centrifugal Water pump, 14" suction, 12" discharge.
- 1—Fulton Horizontal Centrifugal Water Pump. 12" suction, 10" discharge.

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- 1—Sullivan Straight Line Air Compressor, 24" steam cylinder, 28" low pressure air cylinder, 18 1/2" high pressure air cylinder, 30" stroke, capacity 1850 cu. ft. per minute.
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- 1—Chicago Pneumatic Single Stage Steam Driven Compressor, two cylinders, size 22" x 16"; capacity 1700 cu. ft.
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- 1—Ingersoll-Sergeant High Pressure Steam Driven Air Compressor, two stage, low pressure cylinder 18" x 12", high pressure cylinder 12" x 12"; capacity 600 cu. ft.
- 1—Clayton Duplex Steam Driven Air Compressor, duplex steam and two stage air cylinders, dial steam cylinder 10", low pressure air cylinder 18 1/4", high pressure air cylinder 10", stroke 10"; capacity 425 cu. ft.
- 1—Chicago Pneumatic Fuel Oil Driven Compressor; capacity 800 cu. ft., 100 lbs. pressure.
- 12—New York Air Brake Co. Locomotive Type Two Stage Air Compressors, 10" low pressure cylinder, 8" high pressure cylinder, 8" stroke, 7" steam cylinders.

TANKS

- 25—30,000 Gal. Vertical, Storage.
- 20—10,000 " horizontal, storage.
- 15—5,500 " " "
- 10—3,000 " " "
- 25—1,000 " " "
- 25—500 " ver. or horizontal storage.
- 50—Complete Underground Gasoline Storage Tanks, consisting of 160 gal. galv. tank, 14 gauge material, bearing Underwriters' label, with hand pump, also pipe and fittings complete.
- 25—Complete Underground Gasoline Storage Tanks, consisting of 200 gal. steel tank, 3/16 in. material, with hand pump, also pipe and fittings complete.
- 25—22 in. by 54 in., 150 lbs. pressure.
- 10—20 in. by 8 1/4 ft. to 9 1/4 ft., 150 lbs. pres.
- 10—16 in. by 42 in., 150 lbs. pressure.

Send for a free copy of Bulletin No. 205 describing our complete Stocks of Machinery and Equipment.

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Centrifugal Pumps

10—6" American NEW, good for 125 foot head, belt driven.

AND

15—6" Lawrence, good for 50 foot head, belt driven.

AND

Nine hundred and seventy-five other pumps of every type, for every purpose.

Send for our December list of the largest stock in the United States of slightly used and thoroughly overhauled MACHINE TOOLS, POWER, ELECTRICAL and CONTRACTORS' EQUIPMENT.

WICKES MACHINERY CO.,

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Established 1900

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New Railway Track Scales

One set Fairbanks Railway track scales, capacity 100 tons. New scales, have never been set up. Will sell at a bargain.

BANKS FERTILIZER COMPANY
St. Matthews, S. C.

MACHINE TOOLS

- 1—7 1/2" Bevel Shear, used
 - 1—24" Drill Press, used
 - 1—Greaves & Klusman Engine Lathe 18 x 16 with compound rest power cross feed change Gears and Taper Attachment, 1 1/2" Hollow Spindle 2-face Plates, steady rest 1 1/2" 4-Jaw Chuck and CS rest, face plates 1-3 Jaw, 10" Chuck, used
 - 1—American 24" Jointer, used
- DIXIE MILL SUPPLY CO., INC.**
NEW ORLEANS, LA.

PUMPS

Large stock new and rebuilt Steam and Centrifugal Pumps.
Send for List.

LOUIS A. TARR, INC.
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BALTIMORE, MARYLAND

TRANSMISSION

*New and Used Dodge
Equipment for Imme-
diate Delivery.*

Shafting—Cold Rolled Steel—All sizes and lengths.
Shaft Hangers—All types and sizes.
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Pulleys—Split and Solid—Cast Iron, Steel and Wood.
Bushings.
Grease Cups.

*Our Bulletin No. 15 will give you
complete information.*

**NASHVILLE INDUSTRIAL
CORPORATION**
JACKSONVILLE, TENNESSEE

USED EQUIPMENT FOR SALE IMMEDIATE DELIVERY

PUMPS

- 1—Erie Centrifugal 6 in. suction, 5 in. discharge, belt-driven Pump, size No. 5. In good condition, located at Spartanburg, S. C.
- 1—Marsh Sinking Pump, 4 in., size 10x16, No. 46507, good as new, f. o. b. Spartanburg, S. C.
- 1—Cameron Sinking Pump, size 8 No. 27330, 4 in. pipe. Good as new; f. o. b. Spartanburg, S. C.
- 1—No. 5 Emerson Steam Pump, good as new, f. o. b. Spartanburg, S. C.
- 1—No. 3 Emerson Steam Pump. Good as new, f. o. b. Spartanburg, S. C.
- 1—8 in. direct connected to steam engine, Morris Centrifugal Pump. Excellent condition, f. o. b. Spartanburg, S. C.
- 1—Warren Duplex Steam Pump, 10x8x10, in excellent running order. Located at Spartanburg, S. C.
- 2—Union Steam pumps S. C. 6x8x6.

STEAM ENGINES

- 1—20 H.P. Liddell & Tompkins Slide Valve Engine. In good running order. Located at Spartanburg, S. C.

BOILERS

- 1—40 H.P. Locomotive type Boiler, mounted on wheels, complete with stack and fittings, f. o. b. Spartanburg, S. C.
- 2—Upright boilers complete with fittings 16 H.P.

DUMP CARS

- 3—2 yd. Steel, Koppel Side-Dump Cars, located at Spartanburg, S. C. In good running order.
- 4—Mt. Vernon Flat Cars, 10 to 15 tons capacity. Located at Gaffney, S. C.

Also other equipment not listed

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FOR SALE

Bessemer Oil Engine

125 hp., first-class condition. Owner will let same go at an attractively low price if moved promptly.

PUBLICLICK COMMERCIAL ALCOHOL CO.
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- 5—Jackson & Church 8 1/4 x 8 Double Cylinder Reversing Throttle Steam Winches with 14" single drum and tapered nigger head.
 - 3—Hyde 6 1/4 x 10 Double Cylinder Compound geared Reversing Throttle Winches with two 12" x 12" Spools.
- These Winches are suitable for all classes of haulage such as pulling cars around industrial plants, etc.

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Entire Plant

consisting of

Machinery and Equipment

representing the war time plant of the Dupont Co. Here lies an opportunity for some live buyer to make money as we must vacate the premises.

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**The U. S. Government Is Liquidating Surplus War Materials
SELECTIONS FROM OUR STOCK**

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7x12 double cylinder, single drum, reversible steam hoisting engines, drums 16"x24", one winch head and band brake, adapted for rapid hoisting in mine shafts or slopes, derricks, etc., practically new, price \$300.00 each (less than 1/3 new value).

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6x5 1/2 x6 Blake duplex steam pumps, like new, brass fitted, 4" suction, 3" discharge, capacity 172 G.P.M., suited for pumping against 125' head or 50 lbs. pressure, priced at \$125.00 each (1/2 new value).
4 1/2 x2 3/4 x4 duplex steam pumps slightly used brass fitted, 2" suction, 1 1/2 discharge, capacity 29 G.P.M.; our bargain price only \$60.00 each.

10x6 1/2 x12 McGowan vertical simplex steam pumps, almost new, requires minimum floor space, fine for boiler feeding or working under pressures up to 150 or 200 lbs.; 4" suction, 3" discharge, brass fitted. Capacity 125 G.P.M. Special bargain price only \$140.00.

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1000 G.P.M. Wheeler underwriters steam pump, 10 fire hydrants, valves, fittings, etc. An unusual chance

to reduce your insurance and protect your plant at less than half the regular price of such equipment, also one 750 G.P.M. electric underwriters fire pump.

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Only a few left: 19"x8" LeBlond, quick change, screw cutting lathes, one of the best makes at less than half of new price. \$600.00 buys one of these \$1500.00 lathes. A tool that will do accurate work for years.

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Over 500 Dodge cast split and steel split pulleys, hangers, boxes, etc., at money saving prices.

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STEAM RADIATION

PIPE VALVES FITTINGS

GOV'T. SURPLUS RADIATION AND PIPING at a great saving. Write for prices and particulars.

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MACHINERY**

Band Saw, 36" Fay & Egan No. 50 Special.
Boring Machine, single spindle, horizontal Fay & Egan.
Glue Spreader 38" double roll, Francis.
Jig Saw, self contained, Collday.
Jointers 20" Porter type C., round head.
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Jointers 16" L. Power & Co. round head.
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Planer 26x12" double, endless bed L. Power & Co.
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Saw table, Crescent No. 1.
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Stair routing machine, no table.

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For Sale: POWER PLANT

Consisting of

- 2—Westinghouse 800 HP. Horizontal Tandem Gas Engines—direct connected to A.C. Generators—600 KVA, 600 volt, 3 phase, 60 cycle, 150 r.p.m., 578 amp.
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- Also Panels, Instruments, Exciters, etc.
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- 2—Same as above—connected to 25 HP Motor.
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- 29—13 KVA—11,000, 10,500, 10,000 to 440-220 volts, 60 cycle, single phase, Westinghouse Transformers.
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- 3—50 HP. 440 volt, Westinghouse Induction Motors, type CS, style 160317, 3 phase, 60 cycle, 1170 r.p.m., 37.5 amp., complete with pulley 12x12 base and starter.
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Generators & Motor Generator Sets
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For All Purposes

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1—42" and 54" J. A. Fay Band Rip Saw. 1—54" Gilbert Band Resaw.
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1—J. B. Hoyt 3" 4-side Matcher. 1—24" 3-drum Berlin Sander.
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Boilers, Hoists, Pumps, Engines, Ironworking Machinery, Belting, Shafting, Pulleys, Hangers.

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ELECTRIC HOIST AND DERRICK \$1600

PRICES F. O. B. CARS, HOG ISLAND, PA.

You Save at Least \$2000

These Hoists and Derricks are standard late models, manufactured by The American Hoist & Derrick Co., St. Paul, Minn. They are almost new, and every one is **GUARANTEED** to be in first-class running order.

The Hoists have two drums and swingers, and are complete with Starting and Control Equipment. Either side or bank control, and rated 6000 pounds single line on each hoisting drum. Slewing rope 36 ft. per minute, and hoisting rope speed 160 ft. per minute. The MOTORS are Otis 37 H.P. A.C., 60 cycle, 3 phase, 440 volt, intermittent duty slip-ring induction type and, if desired, may be changed to suit the individual current requirements of purchasers at cost.

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Mast.....16 in. square, 40 ft. high.
Boom.....Made of (2) 14 in. sq. timber 48 ft. long spliced to lengths of 80 ft. with (2) $\frac{1}{2}$ in. and (2) $1\frac{1}{2}$ in. truss rods.
Stiff Legs. 14 in. sq., 55 and 60 ft long, or 16 in. sq. 50 ft. long, will furnish either length desired, capacity 5 to 10 tons. Bull wheel 16 ft. dia. Principal sheaves 16 in. dia. and 14 in. single blocks.
The Cable which was formerly used will be given with each purchase of a Hoist and Derrick.

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**ALL SIZES SECOND-HAND
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One 2" Oster Motor Driven Pipe Machine. Almost new. 2-HP, 3 Phase, 60 Cycle, Motor. (Will change motor to suit purchaser.)

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Cast Iron Bell and Spigot Fittings, Valves and Hydrants

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- 10—Acre Manufacturing Site with R.R. Siding in property.

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Rods—100 tons 7/8" Round
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Stacks—Tanks—Pipe, etc.
What are your requirements

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IMMEDIATE DELIVERY

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- 4—100,000 cap. flat bottom gondolas.
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Steam and Electric COMPRESSORS
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Hoisting Engines
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- 2-20 ton 8 wheel Industrial.
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- 1-16x24 Standard Gauge Baldwin Switcher, with tender.
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- 2-Type "B" Erie, on traction wheels.
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- 4-30 H.P., 220 volt, D.C. Thomas Electric.
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Byers Crane Type C. Steam.
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25 KW Generator and Buffalo Gasoline Engine, new mounted on wheels.
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We have for sale one rebuilt No. 1 Merriman 2000 yard One-Car Steam Melting Asphalt Plant. It is in fine condition and we can make good delivery.

Here's your chance to get a real asphalt plant at a price that is right. Better get in touch with us quickly.

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FOR SALE

- 1-Barber-Greene loader, 3 months old
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Above equipment located at Norfolk, Va.

Norfolk Equipment Corporation
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- 1-20 ton McMyler 8 wheel M.C.B. bucket drums, 40 ft. boom.

NEW TRACTION CRANES

- Full revolving Road Cranes 7 ton capacity ½ yd. bucket.

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- 1-Osgood No. 18 equipped with 30 ft. boom for clamshell work.

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- American 8 wheel switcher, cylinders 18x24" drivers 44" wheel base 11' 6", weight 60 tons.

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- 1-Iroquois 1250 yd. Road Asphalt plant Complete.

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We carry in stock concrete mixers, air compressors, hoisting engines, buckets, pipes, cars and other equipment and machinery.

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LOCOMOTIVE CRANES

- 2-Ohio 20-ton, 8-wheel, 50-ft. boom, double drums, A.S.M.E. boilers.

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- 1-Brown Holst 15-20 ton, 8-wheel, 42-ft. boom, hook block.

- 1-Industrial 7½-ton, 4-wheel.

- 2-Browning 4-wheel electric.

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FOR SALE

- 1-10 ton traveling Crane, 40 foot span, \$750.00.

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One McMyler 35 ton type J. Bucket Handling Locomotive Crane, 8 wheel M.C.B. 50 ft. Boom. Will furnish with either a lap joint or A.S.M.E. boiler.

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STEAM SHOVEL**FOR SALE**

MARION model 60, 3-yard dipper, full M.C.B. Fine condition.

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10,000 Tons**75lb. Relaying Rails****PRICED TO MOVE PROMPTLY**

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70-80-85 lb. frogs, switches, guard rails, stands, etc.

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Pavers, mixers, rollers, shovels, cranes, crushers, etc.

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STEAM SHOVELS CARS
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RAILS

Complete stock 16 lb. to 100 lb. sections

Prompt shipment

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RELAYING RAILS TRACK ACCESSORIES

A large stock of good relayers in weights from 30 lb. to 90 lb. per yard for shipment as quickly as cars are placed for loading. Can ship complete with necessary splice bars, angle bars, bolts and spikes.

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RAILS NEW & RELAYING ALL WEIGHTS

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WE BUY RAILS FIT TO RE-LAY

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New Frogs and Switches at low prices.

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650 Tons 56-Lb. Rail

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Track Accessories

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RAILS IN STOCK

8 Standard Gauge Flat Cars, good serviceable second-hand condition. Also 4 Standard Gauge Locomotives and a large tonnage of all sections of relaying rails as well as new rails. Wire or write for prices.

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12, 14, 20, 25, 30, 35, 40, 45 lbs. per yd.

We are also dealers in Relaying Rails.

All Sizes

Eliminate Tie-ups

The "CINCINNATI" is designed by engineers who have devoted their lives to the solving of track problems.

Being carefully designed to eliminate tie-ups, they save time and money.

The Best material obtainable is used and the workmen are masters in their line.

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We have on hand Relaying Rails

35 to 100 lbs. per yard

Large tonnages Prompt shipments
Get our quotations

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RELAYING RAILS FOR IMMEDIATE SHIPMENT

75 tons 30 lb., Virginia
400 tons 40 lb., Virginia
700 tons 40 lb., North Carolina
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Miscellaneous Track Material, Iron and Steel Scrap.

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Manufacturers

FROGS, SWITCHES, CROSSINGS, Etc.

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Manufacturers of

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Manufacturers of Balkwill Articulated Cast Manganese Crossings

FLAT CARS BOX CARS

300 flat cars, standard gauge, 36 to 40 ft. capacity 40,000, 50,000, 60,000 and 80,000 lbs.
35 gondola cars 60,000 and 80,000 lbs. capacity 25' 7" to 36' long, one and four board high, flat and hopper bottom.
15 box cars, standard gauge, 36 ft., 50,000 lbs. capacity.

All equipped with air and hand brakes.

HENRY A. HITNER'S SONS CO.
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Locomotives, Steam Shovels, Locomotive Cranes, Cars,
New and Relaying Rail

WE HAVE FOR SALE

40 Standard and 36" Gauge Modern Direct-connected Locomotives, in all types and weights from 8 to 75 tons.
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15 Steam Shovels and Locomotive Cranes of different types and sizes.
3000 tons Relaying Rails, all sizes, on our Birmingham yards.
100 sets 35 and 40-lb. Frogs and Switches; good as new.

Birmingham Rail & Locomotive Co. BIRMINGHAM, ALA.

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NEW and RELAY RAILS

Logging Equipment, Track Materials and Supplies
LOCOMOTIVES, CARS, STEAM SHOVELS and CRANES
Dickson Building - - NORFOLK, VA.

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- 3—Model 28 Marions, 5/8 yd. dipper, shop Nos. 3134, 3137 and 3229.
- 4—Model 60 Marions, 2 1/2 yard dipper, Nos. 1195, 1999, 2059 and 2372.
- 1—Model 70 Marion, 2 1/2 yard dipper, No. 2693.

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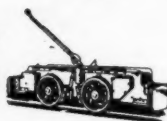
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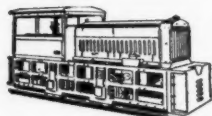
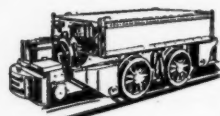


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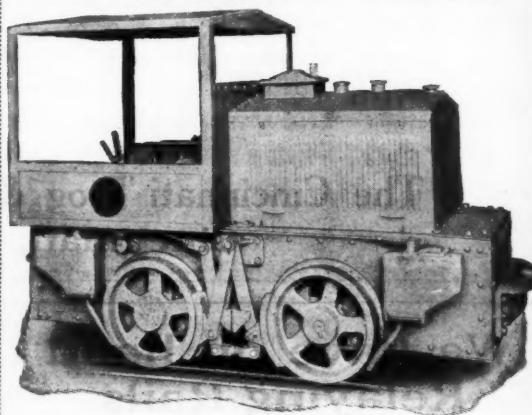
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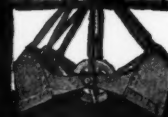
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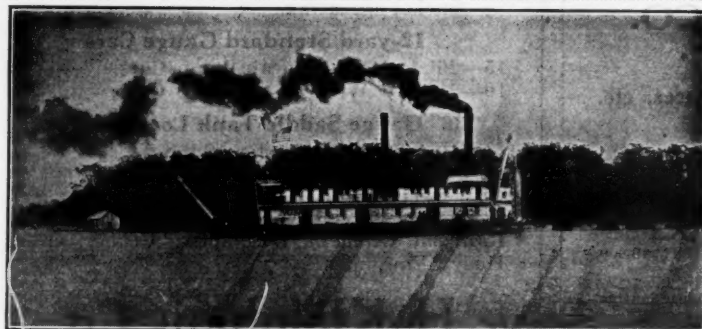
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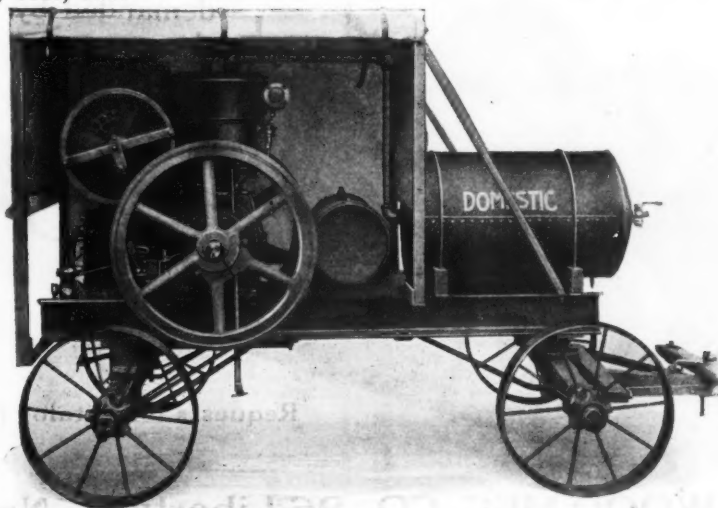
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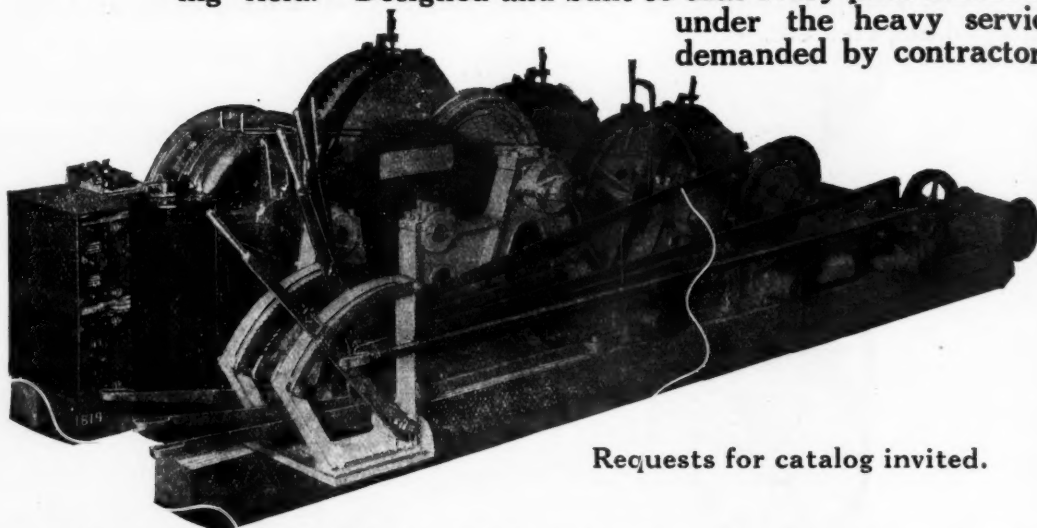
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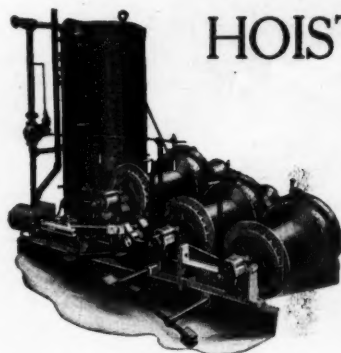


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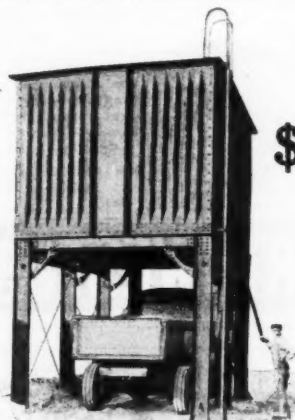
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For Sand, Gravel, Cinders, Coal, etc.



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70 Cu. Yds.

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For shallow holes in
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For any drilling in road
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Rotators weigh 38 lbs.,
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*Rotators are hard on
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Bulletin 1270-W

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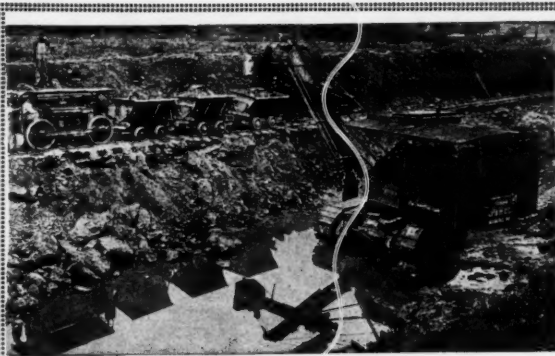
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Here's What a Well-known Southern Contractor Thinks of P & H Excavating Machines

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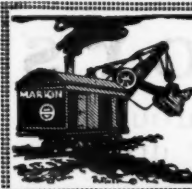
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The Marion Steam Shovel Co.
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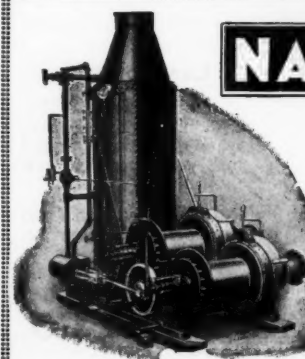


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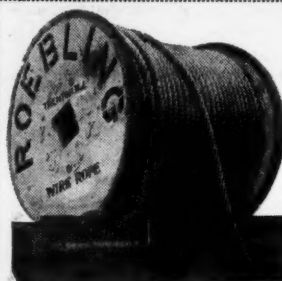
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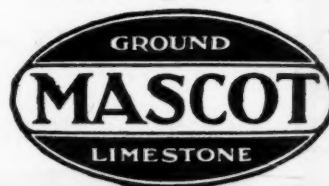


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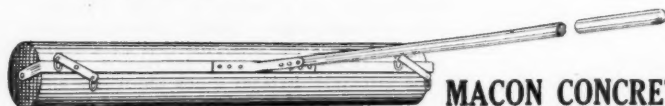
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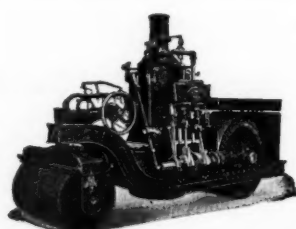
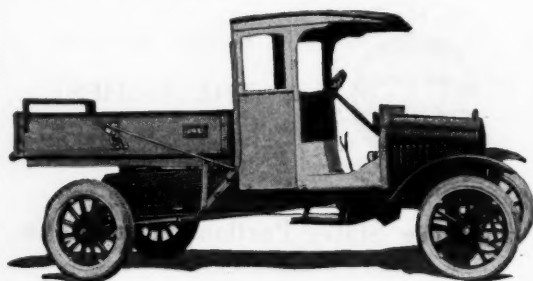
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JENNINGS, the Ideal Body for Ford Trucks.

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Rollers

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**STRENGTH
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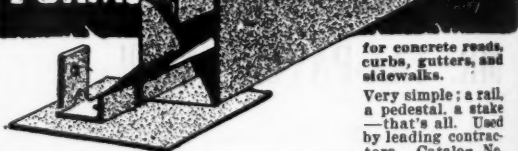
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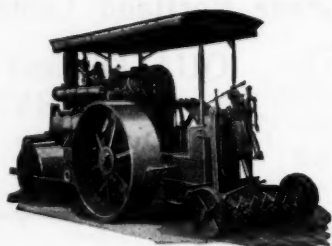


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curbs, gutters, and
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Very simple; a rail,
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—that's all. Used
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Watson Products Corporation, Canastota, N. Y.

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DUMP WAGONS



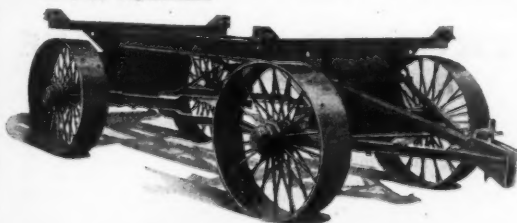
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Write for your copy today.

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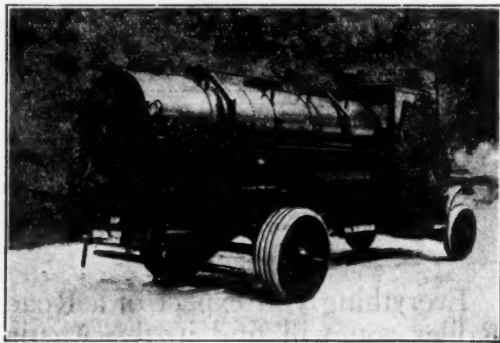
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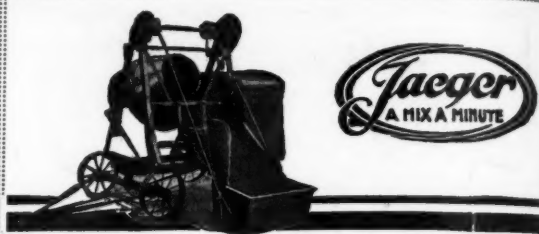


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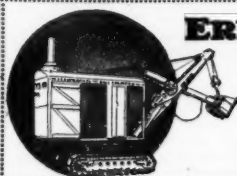
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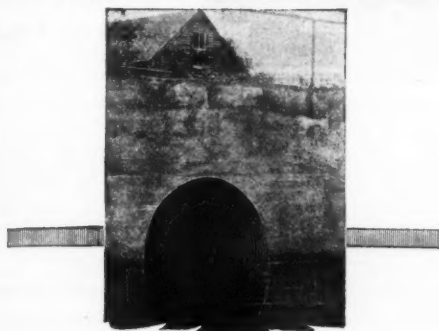
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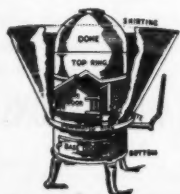
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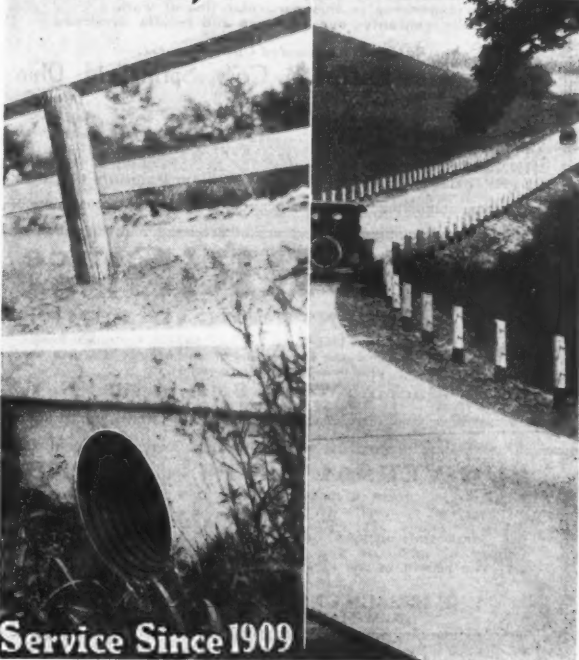
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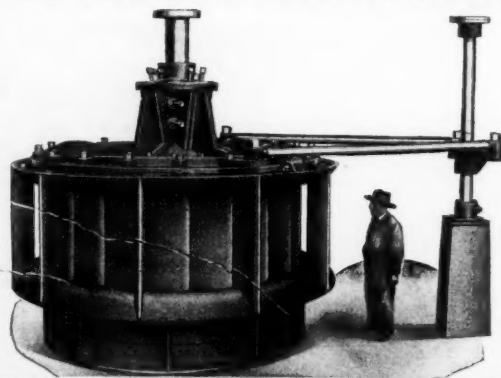


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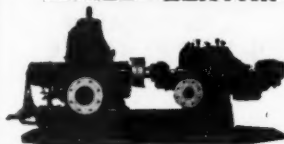
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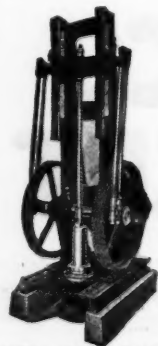
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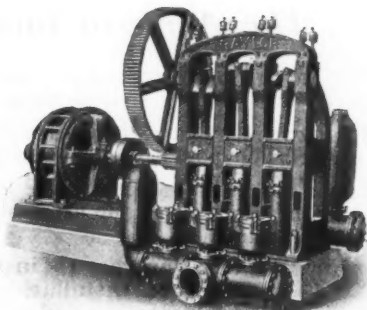
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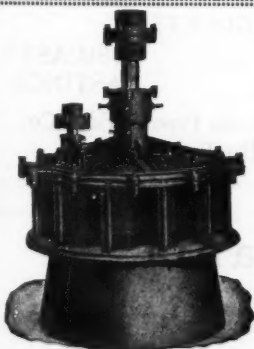
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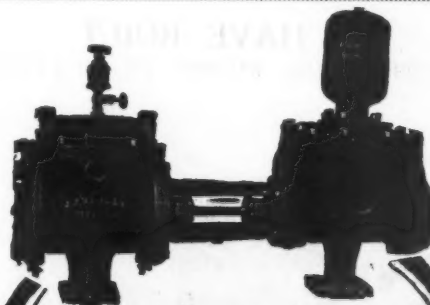
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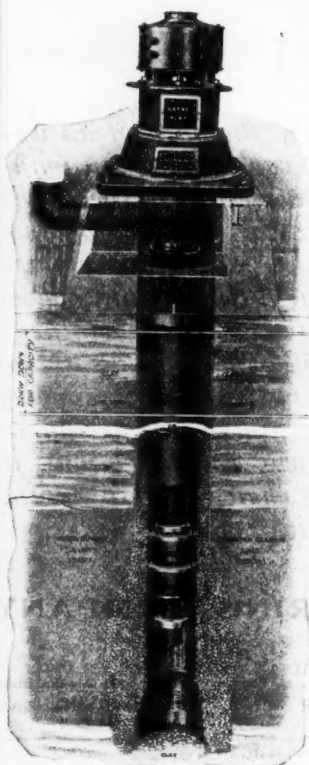
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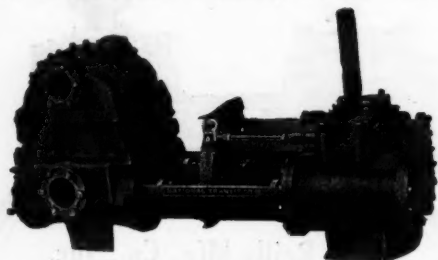


Fig. 122

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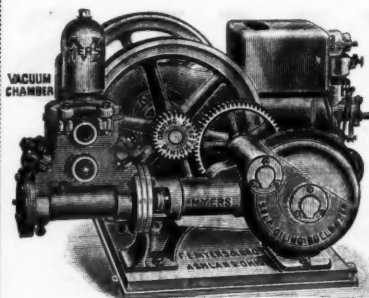
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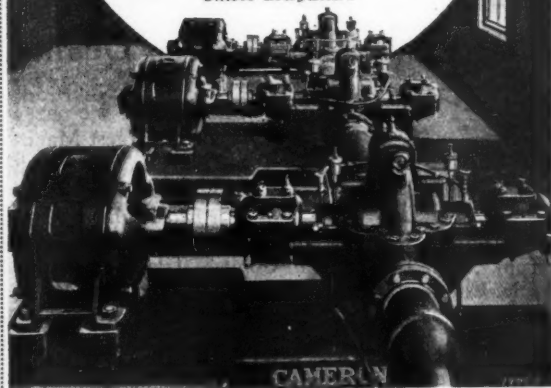
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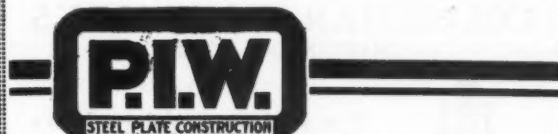
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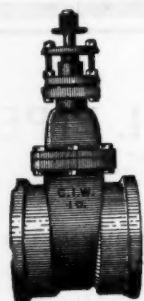
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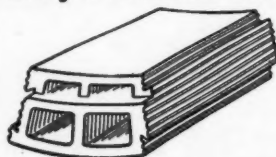
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Ingersoll-Rand Co., New York, N. Y.
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Layne & Bowler Co., Beaver Falls, Pa.
McGowan Co., John H., Cincinnati, O.
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Myers & Bro. Co., The F. E., Ashland, O.
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Austin-Western Road Mchry. Co., Chicago, Ill.
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Buffalo-Springfield Roller Co., Springfield, Ohio.
Erie Machine Shops, Erie, Pa.
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Universal Road Mchry. Co., Kingston, N. Y.

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Austin Mfg. Co., Chicago, Ill.
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Gallon Iron Works & Mfg. Co., Gallon, O.

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Texas Co., The, New York, N. Y.
- WATER PURIFICATION.**
New York Continental Jewell Filtration Co., The, Nutley, N. J.
Robert Filtr. Mfg. Co., Darby, Pa.
Scaife & Sons Co., Wm. B., Pittsburgh.
- WATER-SOFTENING APPARATUS.** (Purifying.)
American Water Softener Co., Phila.
International Filter Co., Chicago, Ill.
New York Continental Jewell Filtration Co., The, Nutley, N. J.
Scaife & Sons Co., Wm. B., Pittsburgh.
Wayne Tank & Pump Co., Ft. Wayne, Ind.
- WATER SUPPLY INSTALLATIONS.**
Layne & Bowler Co., Memphis, Tenn.
- WATER WELL SCREENS.**
McEvoy & Co., J. H., Houston, Texas.
- WATER-WORKS SUPPLIES AND APPLIANCES.**
American C. I. Pipe Co., Birmingham.
Bourbon Copper & Brass Works Co., Cincinnati, O.
Caldwell-Wilcox Co., Newburgh, N. Y.
Columbian Iron Works, Chattanooga, Tenn.
Cook, A. D., Lawrenceburg, Ind.
Giamorgan Pipe & Fdry. Co., Lombard, Va.
Hamburg Boiler Works, Hamburg, Berks County, Pa.
Michigan Pipe Co., Bay City, Mich.
Standard Wood Pipe Co., Williamsport, Pa.
U. S. Cast Iron Pipe & Fdry. Co., Burlington, N. J.
Wood & Co., B. D., Philadelphia, Pa.
- WATTMETERS.**
Weston Electrical Instr. Co., Newark, N.J.
- WELDING.**
Blaw-Knox Co., Pittsburgh, Pa.
- WELDING APPARATUS.**
Electric Arc.
General Electric Co., Schenectady, N. Y.
Oxy-Acetylene.
Kentucky Oxygen-Hydrogen Co., Louisville, Ky.
- WELDING ROD.**
Mueller Metals Co., Port Huron, Mich.
- WELL CONTRACTORS.** (Oil Artesian, etc.)
Cook, A. D., Lawrenceburg, Ind.
Hughes Specialty Well Drilling Co., Charleston, S. C.
Sydnor Pump & Well Co., Richmond, Va.
Va. Mch. & Well Co., Richmond, Va.
- WELL STRAINERS.** (Oil, Water & Gas.)
McEvoy & Co., J. H., Houston, Texas.
- WELL SUPPLIES.** (Oil, Water & Gas.)
McEvoy & Co., J. H., Houston, Texas.
- WELL TOOLS AND SUPPLIES.**
Cook, A. D., Lawrenceburg, Ind.
Keystone Driller Co., Beaver Falls, Pa.
- WHEELS AND AXLES.**
Electric Wheel Co., Quincy, Ill.
- WHEEL PRESSES.**
Caldwell & Co., E. R., Bradford, Pa.
- WINCHES.**
Haddfield-Penfield Steel Co., Bucyrus, O.
- WINDLASSES.**
Haddfield-Penfield Steel Co., Bucyrus, O.
- WINDOW FRAMES AND SASH.** (Metal.)
Lupton's Sons Co., David, Phila., Pa.
Truscon Steel Co., Youngstown, O.
- WINDOW GLASS.**
American Window Glass Co., Pittsburgh.
- WINDOW GUARDS.**
Audubon Wire Cloth Co., Audubon, N. J.
Dexter Metal Mfg. Co., Camden, N. J.
Dow Co., Inc., The, Louisville, Ky.
Meyers Mfg. Co., Fred, J., Hamilton, O.
Stewart Iron Wks. Co., Inc., Cincinnati.
- WIRE.**
All Kinds.
Ryerson & Son, Jos. T., St. Louis and New York.
Barbed Wire, Etc.
American Steel & Wire Co., Chicago.
Youngstown Sheet & Tube Co., Youngstown, O.
Brass and Copper.
Chase Metal Works, Waterbury, Conn.
Mueller Metals Co., Port Huron, Mich.
Fence.
Amer. Fence Constr. Co., New York.
Anchor Post Iron Works, New York, N. Y.
Flat and Round.
Roebbling's Sons Co., John A., Trenton, N. J.
Galvanized and Annealed.
American Steel & Wire Co., Chicago, Ill.
Telephones, Telegraph.
American Steel & Wire Co., Chicago, Ill.
Welding.
Roebbling's Sons Co., John A., Trenton, N. J.
- WIRE CLOTH.** (Iron, Steel, Brass, etc.)
Audubon Wire Cloth Co., Audubon, N. J.
Caldwell & Son Co., W., Chicago.
Harrington & King Perforating Co., Chicago, Ill.
Ludlow-Saylor Wire Co., St. Louis, Mo.
New Jersey Wire Cloth Co., Trenton, N. J.
Wickwire-Spencer Steel Corp., New York.
- WIRE GOODS.**
Amer. Fence Constr. Co., New York.
Cyclone Fence Co., Waukegan, Ill.
Dufur & Co., Baltimore, Md.
Dufur, Baggett & Co., Baltimore, Md.
New Jersey Wire Fence Co., Trenton, N. J.
- WIRE NETTING.**
Ludlow-Saylor Wire Co., St. Louis, Mo.
New Jersey Wire Cloth Co., Trenton, N. J.
Wickwire-Spencer Steel Corp., New York.
- WIRE ROPE.**
Broderick & Bascom Rope Co., St. Louis.
Leschen & Sons Rope Co., A., St. Louis.
Williamsport Wire Rope Co., Williamsport, Pa.
- WIRE ROPE CLIPS.**
American Steel & Wire Co., Chicago, Ill.
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- WIRE ROPE SLINGS.**
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Standard Wood Pipe Co., Williamsport, Pa.
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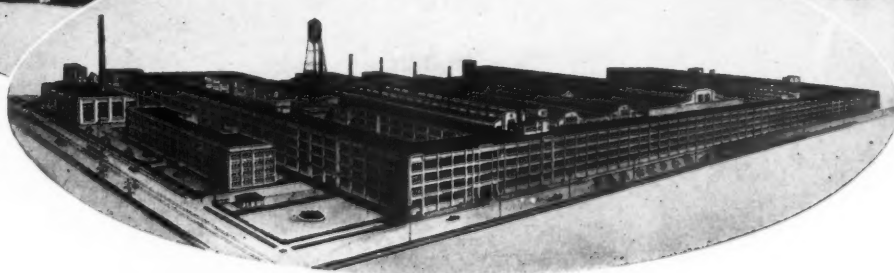
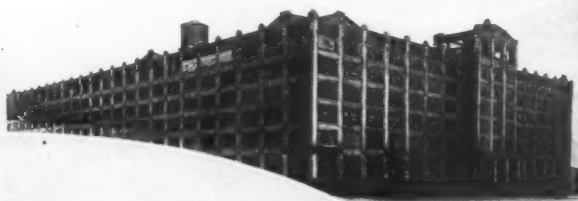
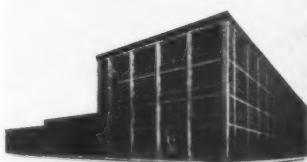
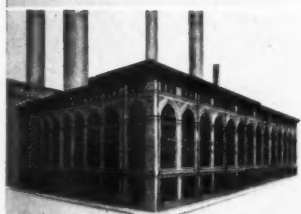
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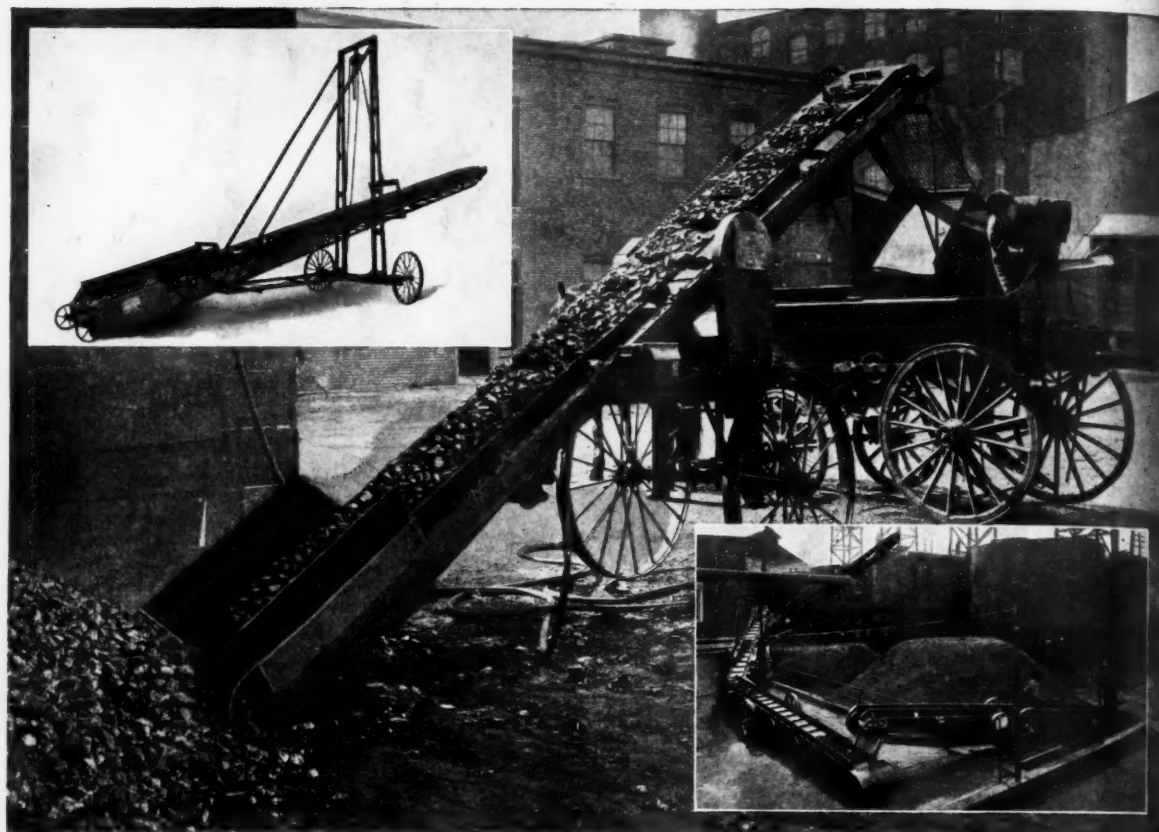
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